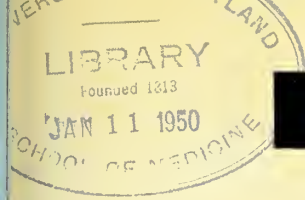




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*Ault, G. W. & Madigan, E. P.: Am. J. Surg., 77:352, 1941

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No. 1

PROLONGED LABOR

William F. Mengert, M.D., Dallas, Texas

Many factors can prolong labor, including cephalopelvic disproportion, obstructing tumor, malpresentation, such as transverse, face or brow, cervical or vaginal scar and poor uterine contractions. However, discussion of prolonged labors is usually confined to those without obvious anatomic cause for prolongation. At one time there was a controversy between two groups of physicians, one believing the cervix failed to dilate because it was "rigid," and the other that the uterine force was inefficient. This controversy seems to have resolved, since most modern physicians agree that the cervix will dilate under the force of efficient uterine contraction, unless it has been scarred as the result of disease or previous operation. Therefore, the rest of this paper will be concerned with the causes and treatment of inefficient uterine contraction or uterine inertia.

In seeking the cause of uterine inertia, we immediately realize that little is known about the physiopathology of normal uterine contraction. For example, what is the cause of the onset of labor? Why do the Braxton Hick's contractions of pregnancy suddenly become forceful and dilate the cervix as well as become painful? One of the major reasons we know so little about myometrial physiology is that actually the uterus can exhibit many different responses. For example, the uterus is refractory to extract of the posterior pituitary gland during early pregnancy and the late puerperium but is highly susceptible to minute quantities of the same drug during late pregnancy and early puerperium. Moreover, every obstetrician who uses pituitrin for the induction of labor knows that the pregnant uterus is less reactive to pituitrin than is the uterus in active labor. Examples of the differential reaction of the various types of uterus to drugs are numerous and could be multiplied many times.

It is necessary to differentiate between preliminary or false labor and true labor. Painful uter-

ine contractions simulating labor pains frequently occur for days, and occasionally weeks, prior to the onset of labor. In some instances it is virtually impossible to differentiate between preliminary labor and true labor. In other words, how can we know when a woman is in preliminary labor and when she is in a true but inefficient labor? For example, we have all seen patients who have been in preliminary labor for days suddenly experience rapid and progressive cervical dilation and effacement and give birth to a child within a matter of a few hours. Actually, the only possible definition of true labor that will satisfy all criteria is based upon the effect on the cervix. In other words, with progressive cervical effacement and dilation, no matter how slowly it transpires, the patient can be said to be in labor. After a diagnosis of slowly progressing but true labor is made, the definition of prolonged labor is based upon time. Most generally any labor over 30 or more hours can be said to be prolonged.

Etiology.—We can only speculate on the etiology of inefficient uterine contraction. The fact that uterine inertia is usually associated with primigravida women, and that variations of intensity of uterine contraction in response to emotional stimulus are well known, suggests the idea that in some way fear or other emotional stimulus may be causative.

The incidence of prolongation of labor ranges from 2 to 9 per cent, with a representative average in the neighborhood of 1:20 to 1:25 labors. The low incidence (2 per cent) in our own series suggests that the more highly organized and educated the class of patients with which one deals, the more apt he is to deal with uterine inertia. Nevertheless, every physician practicing obstetrics inevitably must cope with prolongation of labor.

Dangers.—Duration is not the sole criterion of the gravity of any labor. On the other hand no one can view with equanimity a labor which drags on for days, particularly in the face of the importunities of the relatives to "do something."

Maternal dangers include infection and those imposed by ill-chosen emergency operative proce-

dures. The longer a patient remains in labor, the more likely she is to become infected, and, as Odell and Plass showed, intrapartum fever can carry over into the puerperium and express itself as endometritis. Douglas and Stander showed that operative intervention doubled or tripled the hazards of prolonged labor. There is also some evidence to indicate that there is an increased incidence of puerperal hemorrhage due mostly to the blood loss attendant upon necessary operations and in part to immediate puerperal atonia.

Fetal dangers stem chiefly from anoxia and infection. It is well recognized that the fetus tends to die in utero toward the end of a prolonged labor. I believe it is logical to ascribe this tendency towards fetal death to anoxia. Murphy, using the Lorand tocograph, offered evidence to show that the pattern of contraction with uterine inertia is inefficient and that, unlike normal labor, the uterus does not relax fully between contractions. In other words, the uterine muscle is constantly in a state of mild contraction, and therefore its blood supply inevitably must be diminished. Although the diminution of blood supply offers no hazard to the uterine muscle, it may decrease the fetal oxygen supply below the sustaining level.

Prolongation of labor invites introduction of organisms into the amniotic cavity. Although intrauterine infection, or in this case amnionitis, tends to occur more readily with ruptured membranes, it can also occur in the presence of an intact amniotic sac. Intrapartum infection tends to kill up to one half of all children unless vigorously combatted or, preferably, prophylactically treated. The infants succumb from pneumonitis or septicemia or both. Infected amniotic fluid enters the lungs with the tidal waves attending intrauterine respiratory movements and thus readily produces pneumonitis. (Fetal septicemia is practically a direct invasion, since bacteria have only to penetrate the bag of waters to gain access to blood vessels on the fetal surface side of the placenta.)

There have been many attempts to control uterine contractions, both to augment and to allay them. Estrogen has been used to prime the uterus, and as much as 150 mg. of stilbestrol in a single dose have been used for this purpose. The results are somewhat equivocal, although it is extremely doubtful that benefit results. On the other hand, no harm is produced. The calcium ion is supposed to augment uterine activity, but Patton and Musséy, after a trial of the intravenous injection of 10 cc. of a 20 per cent aqueous solution of calcium gluconate at three hour intervals, concluded they could not appreciate increments of uterine contraction. Quinine has a dubious

value as an oxytocic and may exert a deleterious action on the fetal auditory nerve. The irritation and hyperemia induced by enemas and oral ingestion of castor oil may stimulate uterine activity, but the physical depletion of, and the annoyance to, the patient more than offset any possible benefits. The employment of the hydrostatic bag and of scalp traction to dilate the cervix is based upon a false premise, since neither of these methods truly dilate the cervix. The cervix dilates in response to uterine contraction. At best, the bag or scalp traction can only irritate the cervix and perhaps augment uterine activity slightly. On the other hand, the prolonged introduction of a foreign body with the attendant opportunity for infection renders its use questionable, if not actually dangerous. It is well recognized that the intact amniotic sac in some instances can interfere with the progress of normal labor, and for that reason one of the measures utilized to stimulate the uterus in uterine inertia is artificial rupture of the bag of waters. Again, the danger of infection must be stressed and a general rule suggested, namely, that in no instance should the membranes be ruptured unless the patient is within a few hours of certain termination of labor.

Finally, we must mention oxytocics. Ergot and its products are of too prolonged action to justify their use in uterine inertia. Pituitrin, on the other hand, is a relatively short-acting drug and when properly given is of marked benefit. Its use is hazardous, yes, but prolonged labor is also hazardous. To date, and when properly employed, it offers more real help than any other single measure. This is not a drug for the nurse to give. If you decide to employ it, go to the hospital and give it yourself. I would not have you believe that the cautious, judicious use of pituitrin to stimulate the inefficiently contracting uterus offers justification for its use with normal labor. Nothing is farther from the truth. Pituitary extract is a powerful drug, and its indiscriminate use can kill or cripple mothers and their children. Its use in the efficiently contracting uterus, in other words with normal labor, is unreservedly condemned. On the other hand, uterine inertia imposes certain maternal and fetal dangers which can be minimized when pituitary extract is employed with intelligence.

Drugs which allay uterine activity include morphine sulfate when given in large doses and the magnesium ion, as suggested by Abarbanel.

Cesarean section as a method of treatment of prolonged labor deserves special mention. It must be emphasized that prolongation of labor due to uterine inertia cannot be diagnosed until the patient has been in labor quite a number of hours. In fact, it is seldom diagnosed until the second

day. By this time the ordinary types of Cesarean sections such as classic or the low cervical are dangerous. Moreover, as Stander and Douglas have shown, any operative procedure increases the hazard in prolonged labor.

Treatment

A summary of current treatment at Parkland Hospital follows:

1. Maintain the fluid balance and prevent dehydration with at least 2,500 cc. of fluid per day.

2. Give 30,000 to 100,000 Oxford units of penicillin intramuscularly every three hours as soon as the diagnosis of prolongation of labor is made.

3. Each night, when it is certain that delivery is not imminent, give $\frac{1}{2}$ grain of morphine, 1/100 grain scopolamine, and 2 cc. of 50 per cent solution of magnesium sulfate intramuscularly.

4. Each morning stimulate the patient by the injection of 1 minim of posterior pituitary extract. The doctor must be in attendance and preferably should administer the drug personally. One-half hour later a second dose of 1 or 2 minims, *but never more*, may be given. A third dose is given one-half hour later. In other words, three doses of 1, and not more than 2, minims of posterior pituitary extract are given at half hour intervals. Pituitrin administered according to the above may be repeated in the early afternoon, but more than two courses in any day is highly undesirable.

5. Avoid operation at least until the cervix is fully dilated and retracted.

6. Continue the administration of 10,000 to 20,000 Oxford units of penicillin to the child after it is born.

With the exception of the third measure mentioned above, discussion is unnecessary. Sedation is given each evening because it is psychologically correct to do so, and because it relaxes the uterus, augments its blood supply, and thus improves the oxygenation of the fetus. Psychologically, any human can face the day with increased equanimity after a night of rest. It is important to rest the patient at least once in each 24 hours, and since night is the logical time the medication noted above is given then.

Results.—During the years 1947 and 1948 there were 74 women with prolonged labor due to uterine inertia among 3,822 deliveries where the children weighed 1,500 or more gm. Forty-four of the uterine inertias occurred during the first labor, 8 with the second, 5 with the third, 7 with the fourth, 4 with the fifth, 1 each with the sixth, seventh and eighth, and 3 with the ninth or more labors. There were no maternal deaths. Three children died, 1 prior to birth and 2 immediately after. This is an uncorrected fetal mortality rate

of 4.05 per cent. Intrapartum fever occurred in 3 women, and puerperal endometritis in 10. Two women suffered a hemorrhage of 600 or more cc., and 4, or $5\frac{1}{2}$ per cent, had retained placentas. Forty-six, or 62 per cent, of the 74 women experienced spontaneous delivery. There were 17 low forceps and 8 midforceps operations and 3 breech deliveries. There was no Cesarean section performed in this series. Three women had Dührssen's incisions of the cervix, and oxytocics to stimulate labor were used in 11 of the 74 women.

In summary, prolonged labor projects the patient and the physician into a situation which can not be improved by any heroic operative means and must therefore be accepted with all possible equanimity. I believe that two measures recently introduced have greatly mitigated both the maternal and the fetal dangers of uterine inertia. These include (1) the administration of penicillin throughout the course of the labor, and (2) stimulation of the uterus by the cautious, judicious use of minute doses of posterior pituitary extract.

THE ELECTROCARDIOGRAM AND A STANDARD EXERCISE TEST IN CORONARY INSUFFICIENCY

Lewis E. January, M.D., and
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The purpose of this report is not to record still another group of patients with suspected coronary artery disease who were subjected to an exercise test, since the series is a small one, but rather to describe in detail the technic of performing a particular test. Our experience with this test is included.

The diagnosis of angina pectoris rests upon a careful evaluation of the patient's description of his subjective sensations. This requires careful inquiry concerning all the attributes of the attack. When the classic symptoms are combined with objective cardiac abnormalities in the physical examination, the electrocardiogram or the roentgenogram, there is seldom difficulty in arriving at a proper diagnosis. In atypical instances, in cases where the symptoms are colored by the patient's emotional responses and in some cases where there are few or no objective criteria, uncertainty may remain despite efforts to evaluate the facts at hand. There are many cases of coronary artery disease with angina pectoris where there is no objective evidence to confirm the diagnosis. A normal electrocardiogram does not

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necessarily exclude coronary disease, although significant abnormalities do appear in the majority of tracings recorded during a spontaneous or induced attack of angina pectoris. It is not often that the physician has the opportunity to record an electrocardiogram during a spontaneous attack, and there is a natural hesitancy to inducing an attack. Furthermore, there are several conditions which cause pain quite similar to that of angina pectoris, most prominent of which are esophageal hiatus hernia, cardiospasm, esophageal spasm and osteoarthritis of the dorsal spine. The coexistence of angina pectoris and one or more such conditions can lead to a confusing situation. Many conditions aside from diseases of the heart can lead to electrocardiographic changes which may imitate the alterations often associated with coronary artery disease. Sensenbach¹ has listed 47 such conditions.

In situations where the diagnosis is not certain additional help often can be obtained from tests designed to measure the adequacy of the coronary circulation. These tests are based upon the occurrence of changes in the electrocardiograms of many patients during attacks of angina pectoris. There are two such tests in common use today. One is the anoxia test, originally described by Levy and associates,² while the other is an exercise test, of which there are several modifications.

Master and associates³ have described a standard exercise test based on the age and sex of the patient. There remains some controversy over which of the two types gives the more accurate information. Master⁴ has found that the electrocardiographic changes in the standard exercise test referred to correspond almost exactly with those of the anoxia test. Grossman, Weinstein and Katz⁵ have recently reviewed the problem and state that the difference in accuracy, if any, is slight.

A reliable exercise test is desirable because of its greater simplicity and safety, and because it subjects the patient to an experience which simulates his daily routine more closely than does the anoxia test. If the patient experiences an unfavorable reaction, it is not ordinarily severe or different from the symptoms which are being evaluated by the test. With the anoxia test, however, patients are reported to develop not only precordial pain but also headache, bradycardia, anxiety, cyanosis, tremors and shock. Such reactions have been reported in control patients as well as those being evaluated for coronary insufficiency.^{6, 7, 8, 9} Death has occurred with the test.¹⁰ In fairness, however, it should be stated that most observers believe that the hazards of the test are not excessive if it is carefully performed. Our own experience with the test has been limited.

Table 1.—Number of Trips to Be Performed in the Two Step Test, Arranged According to Sex, Age and Weight.

Weight (lbs.)	Age (yrs.)												
	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69
Males													
40- 49	35	36											
50- 59	33	35	32										
60- 69	31	33	31										
70- 79	28	32	30										
80- 89	26	30	29	29	29	28	27	27	26	25	25	24	23
90- 99	24	29	28	28	28	27	27	26	25	25	24	23	22
100-109	22	27	27	28	28	27	26	25	25	24	23	22	22
110-119	20	26	26	27	27	26	25	25	24	23	23	22	21
120-129	18	24	25	26	27	26	25	24	23	23	22	21	20
130-139	16	23	24	25	26	25	24	23	23	22	21	20	20
140-149		21	23	24	25	24	24	23	22	21	20	20	19
150-159		20	22	24	25	24	23	22	21	20	20	19	18
160-169		18	21	23	24	23	22	22	21	20	19	18	18
170-179			20	22	23	23	22	21	20	19	18	18	17
180-189			19	21	23	22	21	20	19	19	18	17	16
190-199			18	20	22	21	21	20	19	18	17	16	15
200-209				19	21	21	20	19	18	17	16	16	15
210-219				18	21	20	19	18	17	17	16	15	14
220-229				17	20	20	19	18	17	16	15	14	13
Females													
40- 49	35	35	33										
50- 59	33	33	32										
60- 69	31	32	30										
70- 79	28	30	29										
80- 89	26	28	28	28	28	27	26	24	23	22	21	21	20
90- 99	24	27	26	27	26	25	24	23	22	22	21	20	19
100-109	22	25	25	26	26	25	24	23	22	21	20	19	18
110-119	20	23	23	25	25	24	23	22	21	20	19	18	18
120-129	18	22	22	24	24	23	22	21	20	19	19	18	17
130-139	16	20	20	23	23	22	21	20	19	19	18	17	16
140-149		18	19	22	22	21	20	19	19	18	17	16	16
150-159		17	17	21	20	20	19	19	18	17	16	16	15
160-169		15	16	20	19	19	18	18	17	16	16	15	14
170-179		13	14	19	18	18	17	17	16	16	15	14	13
180-189			13	18	17	17	17	16	16	15	14	14	13
190-199			12	17	16	16	16	15	15	14	13	13	12
200-209				16	15	15	15	14	14	13	13	12	11
210-219				15	14	14	14	13	13	13	12	11	11
220-229				14	13	13	13	13	12	12	11	11	10

The ideal exercise test should not subject the patient to unusual or excessive exertion, since to do so may be dangerous. Furthermore, excessive exertion will alter the electrocardiogram of the healthy individual. The test should not cause any considerable tachycardia, and it should not induce significant changes in the electrocardiograms of healthy control patients. The exercise test described by Master and associates,³ which utilizes the "two step" exercise and is standardized for the age, weight and sex of the patient, is such a test.

We have used this test on a selected group of patients. In every instance the subjects had normal electrocardiograms prior to the test. The routine tracings consisted of the standard limb leads, chest leads from standard positions and in most instances augmented unipolar limb leads as well. Patients were referred for testing because their physician suspected angina pectoris and desired objective evidence of the diagnosis or because a negative response would provide additional reassurance to certain patients whose symptoms were believed not to be due to heart disease. We reject patients known to be receiving digitalis, because normal subjects who have received the drug usually exhibit pronounced depression of the RS-T junction and segment after exertion, even when there are no conspicuous changes in the T wave, of the kind ordinarily produced by the drug, in control tracings taken before exer-

cise.¹¹ The test must be performed exactly as outlined.³ A standard "two step" staircase, each step 9 inches high, totaling 18 inches, is used. Also required for the test are a chair with wide arms and a stop watch. We have used the standard limb leads and chest lead IVF in this series of patients. The electrodes are placed on the patient, and he is weighed. The control electrocardiogram is recorded. The number of trips required, based on the age, weight and sex of the patient, is determined from the table (table 1). A trip is defined as one complete ascent and descent of the standard "two step" staircase. The "two step" staircase is placed near a wall to give the patient a sense of security. Then the patient at a given signal walks up one side of the steps and down the other, always turning towards the same wall before each ascent, thereby reversing his direction. This will avoid vertigo which might result by always turning in the same direction. The required number of trips is completed in one and one-half minutes, and he sits down. Electrocardiograms are recorded immediately and repeated at four and ten minute intervals.

The criteria for determining an abnormal response are RS-T segment depression of 0.5 mm. or more in any lead, alteration from a positive to a flat, diphasic or negative T wave, or a change from a negative to a positive T wave in any lead. Occasionally, multiple premature beats, significant arrhythmias, widening of the QRS intervals, the

Table 2.—Results of Positive Exercise Test.

PATIENTS WITH POSITIVE RESPONSE TO "TWO STEP" EXERCISE TEST			ELECTROCARDIOGRAPHIC CHANGES INDICATIVE OF A POSITIVE RESPONSE*						
Patient	Sex	Age	Lead	RS-T Depression (mm.)			T Waves Became:		
				Immediate	4 min.	10 min.	Immediate	4 min.	10 min.
1.—L. O.	M	44	I II III IVF	-2.0 -2.0 -2.0	-0.5 -0.75	-1.0 -0.5			
2.—I. H.	F	61	I II	-0.5 -0.75					
3.—M. K.	F	55	III IVF	-0.5			Positive		
4.—F. W.	M	47	I II III IVF	-1.5 -1.5 -1.0				Diphasic Diphasic Diphasic Negative	Diphasic
5.—C. P.	M	51	I II III IVF	-0.5 -0.75 -0.5 -1.0					
6.—F. S.	M	49	II III IVF	-0.5 -1.0	-0.5	-0.5	Diphasic	Diphasic	
7.—D. R.	M	50	IVF	-1.0	-0.5				
8.—N. D.	M	50	III					Negative	Negative
9.—E. B.	M	56	II III	-1.0 -0.5					
10.—E. W.	M	41	IVF				Positive		

*Only leads showing significant changes are tabulated. Leads I, II, III and IVF were recorded in each instance.

appearance of deep Q waves, prolongation of the P-R interval or heart block may occur, and these are considered to be an abnormal response.

This report is based upon the performance of Master's "two step" test on 57 patients. The rigid selection of these patients has been stated. Positive tests were obtained in 10 instances. A detailed analysis of the results of the positive tests is shown in table 2. During the standard exercise none of the patients with a positive test developed symptoms which required termination of the procedure. This is attributable, we believe, to the fact that the series included no patients in whom the diagnosis of coronary insufficiency was positively established prior to the test. We have not included doubtful positive responses, such as occur in neurocirculatory asthenia and the hyperventilation syndrome. We have not encountered a false positive test. Examples of these positive tests are shown in figures 1, 2 and 3, and a brief case report of these patients follows.

Case L. O. (figure 1 and table 2).—The patient was a 44 year old man. The character of his pain was acceptable as that of angina pectoris, except that the initial attack was precipitated simply by stooping-over. Subsequent attacks, al-

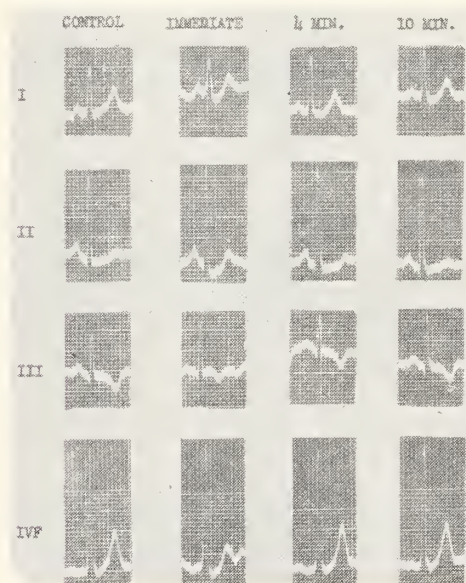


Fig. 1. Case L. O.

though usually associated with exertion and relieved by rest, occasionally were related to stooping. Examination of the heart was negative. Moderately advanced osteoarthritis of the dorsal spine was demonstrated.

Case F. W. (figure 2 and table 2).—The patient was a 47 year old man. The classic symptoms of angina pectoris had existed for six years.

Initially they were related to exertion and were more easily precipitated after a meal and in cold weather, but for several months prior to admission to the hospital identical symptoms occurred at night. This might happen as often as six

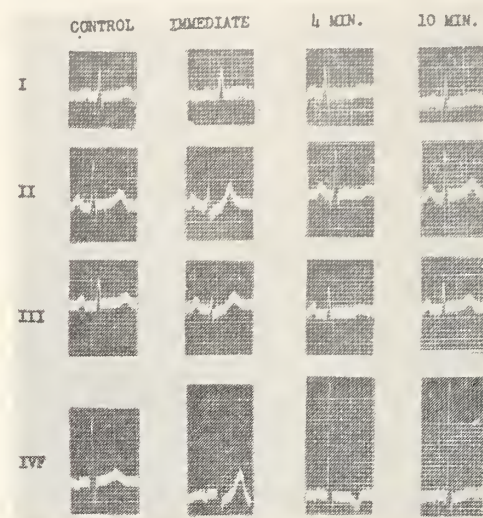


Fig. 2. Case F. W.

times each night, awakening him from sound sleep. All attacks, however induced, were promptly relieved by nitroglycerine, but the nocturnal attacks were relieved almost as well simply by sitting-up in bed. None of the attacks was accompanied by respiratory symptoms. Examination of the heart was negative. The suspicion of an esophageal hiatus hernia was rewarded by its radiologic demonstration.

Case F. S. (figure 3 and table 2).—The patient was a 49 year old man, with the type of pain

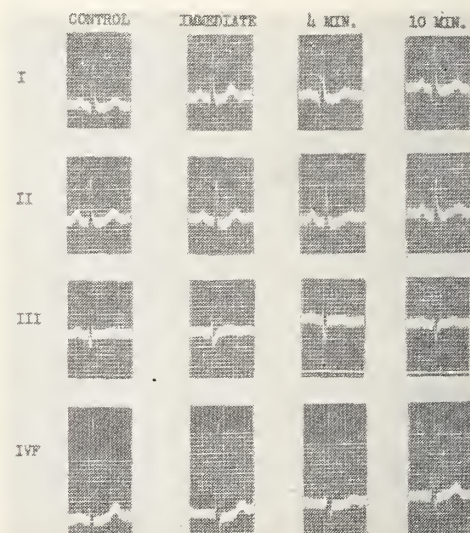


Fig. 3. Case F. S.

characteristic of angina pectoris. His physical examination was negative except for a borderline hypertension. He had led an active life and was reluctant to accept the diagnosis of coronary insufficiency without objective evidence. This provided the indication for performing the standard exercise test.

There have been other exercise tests reported with different criteria for a positive response, but they are not based upon the same degree of exercise as the test under discussion, and they have not been as well correlated with the anoxia test. We have modified the present test and now have the patient recline rather than sit while the electrocardiograms are recorded, and we use two or three unipolar chest leads (V_2 , V_4 , and V_5 or V_6) instead of one chest lead. Furthermore, we believe that too much emphasis should not be given to T wave changes confined to lead III, and the same would apply to a right chest lead if the T wave were negative in the control tracing. Where there is a strong clinical suspicion of angina pectoris and the present test is negative, it would seem advisable to perform a double test, i.e. twice the prescribed number of trips in twice the time, since the double two step test is stated not to result in significant electrocardiographic changes in healthy persons.³

Conclusions

It is emphasized that the standard exercise test described and the criteria for a positive response are as outlined by Master and associates,³ and that none of the 57 patients reported had an abnormal control electrocardiogram. Ten positive tests were obtained, and in no instance was a false positive test encountered. Herein lies much of the value of the test. It appears to us to be far worse to make a false diagnosis of coronary insufficiency upon the evidence furnished by any test than to fail to recognize certain instances of the disorder. It is concluded that the test as outlined is useful in furnishing objective proof of the diagnosis of coronary insufficiency. There is no indication for performing either an exercise or anoxia test upon patients in whom the diagnosis is definite without the supporting evidence which such test may supply. We have outlined certain minor modifications of the test as performed, which seem desirable in extending its usefulness.

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THE IMMEDIATE AND EARLY PLASTIC CLOSURE OF OPEN WOUNDS AND RAW SURFACES

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An open wound may be defined as a break in the skin by which the underlying tissues are externally exposed. If allowed to remain open, such a breach in the normal continuity of the skin results in sequelae which threaten life and health, including infection, hemorrhage, and in chronic open wounds even malignant changes.

Open wounds and raw surfaces are produced by many diverse agents, but most often by trauma, including lacerations, gunshot wounds, avulsions of the skin, and crushing injuries followed by skin slough. Among thermal agents are burns and scalds and gangrene from freezing. Necrosis of the skin may result from overdoses of radiation in the form of x-ray or radium. Vascular diseases, including varicose veins, often cause open ulcers on the extremities. Pressure sores and trophic ulcers secondary to nerve lesions often entail the loss of large areas of skin. Finally, the surgeon himself may create surgical wounds impossible to close by suture alone incident to the removal of diseased tissue such as malignant breast or skin cancer.

Regardless of cause, whether acute or chronic, traumatic, thermal or vascular, all open wounds and raw surfaces have this in common: They may heal—often painfully and slowly—by natural repair, or they may be healed rapidly, effectively and permanently by modern surgical methods. Healed they must be before the patient can return to a state of normal health and useful activity.

The pathology of healing in open wounds has a definite bearing on methods to be employed for closure. The open wound soon becomes contaminated, and within 24 hours contamination often changes to infection. The initial six to eight hours has often been referred to as the period

of golden opportunity. During this early period it is often possible to cleanse and debride the wound, perform necessary bone, nerve or tendon repair, and accomplish primary closure by suture or skin graft. If, however, closure is not accomplished, infection becomes established and remains until healing is complete.

The complications of wound infection include lymphangitis, lymphadenitis, cellulitis, phlebitis and septicemia. Secondary hemorrhage in a badly infected wound is not uncommon.

An open wound healing by natural processes goes through gradual successive changes. During the first few days the surface of the wound appears grayish and necrotic due to a slough of the superficial cells from injury, exposure and infection. During this stage the wound is not suitable for skin grafting, because the surface of the wound is necrotic and will not support a graft. Gradually nonvital tissue disappears, and granulation tissue takes its place. The rapidity of this process depends on many factors, but usually a good clean granulating bed does not cover the entire wound for two to three weeks. The word *clean* is used to mean free from slough; granulation tissue always harbors bacteria.

Gradually the deeper layers of the granulating base are invaded by fibroblasts, which are soon replaced by fibrocytes, and finally by mature scar tissue which fills up the concavity of the wound. Scar tissue invariably contracts, which is nature's way of reducing the size of the wound. However, this natural process of scar contraction has its disadvantages.

On the extremities, due to the gradual but inevitable scar contraction, the blood supply of distal tissues often suffers. In the region of joints, severe contractures often occur with loss of function. Last, but not least, heavy scarring often causes severe disfigurement.

It is well known that skin grafts will take on a granulating bed; however, the longer this granulating bed is allowed to exist, the more scar tissue is laid down underneath. This mat of scar tissue must often be excised or contractures will recur, even after successful grafting—a phenomenon often seen in burns of the hand. Granulation tissue also tends to become exuberant, the “nap of the carpet too deep,” in wounds allowed to remain open many weeks; skin grafts do not take well on this type of bed. For the above reasons, skin grafting should be done as soon as the recipient area is ready.

The symptoms of open wounds are local and general. Local symptoms result from infection and local disturbance of the wounded area. General symptoms in large open wounds may be se-

vere, including septic phenomena, secondary anemia, loss of weight and general debility. For these reasons, also, all raw surfaces should be closed as early as possible.

A timetable for immediate and early closure of open wounds is now presented. Its purpose is to indicate the methods most likely to accomplish safe and successful wound closure at various stages, time being the important factor. It is realized that no inflexible rules are possible, but the following schedule may serve as a useful guide.

Immediate Closure

Immediate closure of fresh wounds is always desirable and, with few exceptions, should be carried out by suture, skin graft or a combination of the two. Necessary bone, nerve or tendon work may often be carried out during the first six hours, depending on the nature and magnitude of the wound, amount of contamination, vascular integrity, etc.

After six hours it may not be safe to do definitive nerve or tendon work, but such important structures may often be approximated with single fine wire sutures to prevent retraction before the wound is closed. Closure is accomplished by suture when possible, supplemented by skin graft when necessary. The split graft of medium thickness is the one most useful for this purpose. It may be taken free hand or with the Padgett dermatome. To supplement closure with such a graft is often to save the patient much in terms of comfort as well as hospital days.

Wounds suitable for immediate closure include the majority of traumatic wounds seen in civilian practice, with the exception of certain severe wounds which approach the military in magnitude. They also include surgical wounds for the removal of malignant growth where primary closure by suture is not feasible.

Early Closure by Suture

In World War II certain wounds were not considered safe to close at once for fear of massive infection or gas gangrene, and often facilities were not at hand for immediate closure. Certain wounds of this type, after a few days observation, were then considered safe for closure. This was usually accomplished by undercutting of skin edges and suture. Skin grafting is not satisfactory at this stage because of an unsatisfactory bed for the graft. The above method was applied only during the first 7 to 10 days in war wounds. While the occasion for closure at this stage in civilian wounds is not frequent, the possibility should be kept in mind. Drainage or irrigation of such wounds after closure may be found necessary.

Early Closure by Graft

After 10 to 14 days the edges of the wound are usually rather fixed and inverted, and the expanse of the wound is losing slough and gaining granulations. After this time, closure by grafting is usually best. Purulent secretions must be kept washed away with moist dressings as a necessary preliminary. Granulations must be kept flattened down with fine mesh gauze and pressure dressings. A thin split graft should then be applied to obtain early healing. This method is applicable to third degree burns and to many traumatic wounds in which extensive skin surface has been lost.

The timetable here is important; a burned surface should be closed if possible by 21 days and not later than 28 days. In the case of burns of the hand a 21 day deadline is considered imperative if useful function is to be restored. This means that preliminary mechanical debridement under anesthesia will be necessary in many cases. We should not delay too long for slough to separate. Delay often means a poor functional and cosmetic result.

Late Closure by Free Graft or Pedicle

Certain wounds will inevitably fall into this category which includes chronic open wounds and ulcers which for various reasons have remained unhealed. In these refractory wounds vascular or static factors must often be taken into account and corrected prior to grafting.

An effort should first be made to obtain preliminary healing by freshening of the wound surface and application of a thin split graft. Such wounds may often be healed in this manner, but to obtain permanent healing the resection of the entire scarred area and application of pedicle skin is often necessary.

Summary

A timetable for wound closure has been presented, indicating methods usually applicable at various stages after injury for different types of raw surfaces.

1. Immediate closure within 12 hours by suture or graft is of tremendous advantage. During the early hours of this period bone, nerve or tendon repair may often be done safely.

2. Early closure by suture during the first 10 days is possible in selected cases where primary closure has not been done. Preliminary observation and care of these wounds is important.

3. Early closure by graft is usually indicated after 10 to 14 days. Large raw surfaces should never remain open longer than 28 days, with a deadline of 21 days for burns of the hand.

4. Late closure of chronic open wounds and ulcers will rehabilitate many patients. These wounds should first be closed by split thickness free grafts, which in certain cases should be replaced by pedicle skin to attain maximum function and permanent wearing qualities.

The immediate and early closure of wounds, whether traumatic, thermal or vascular, reduces morbidity and mortality, saves time, and helps attain a good functional and cosmetic result.

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GENERAL CONSIDERATIONS OF MAXILLOFACIAL SURGERY

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Injected into the general considerations of maxillofacial surgery or traumatic injuries of the facial bones is the ultimate end result, summed up in the restoration of occlusion of teeth, restoration of symmetry and normality of facial contour and restoration of the function of the jaws. To obtain these ends the principles of plastic surgery are brought forward in the management of these injuries. Unquestionably many deformities of the face and subsequent plastic procedures could be eliminated if more thought, time and care were devoted to the original injury.

In dealing with these types of injuries it is to be noted that, while they are of a serious nature, they do not necessarily cause death. Inasmuch as traumatic injuries of the facial bones accompany other bodily injuries, many of these fractures are mistreated because the other injuries seem to be more important; and the maxillofacial surgeon is considered when the deformity is obvious to both patient and doctor and there is no question that the patient would prefer to have his deformity obliterated. The majority of the poor results, then, are due to missed diagnoses or neglect due to unfamiliarity with such injuries. Malocclusion of the teeth, asymmetry of the face and the distorted facial contour add to the mental anguish and emotional upsets of most of these patients.

With the high speed age, this type of injury is increasing as is the number of procedures, and many of these cases should have free consultation with the neurosurgeon, the oral surgeon and the

otolaryngologist. In this complex arrangement of facial bones it becomes apparent that treatment cannot be for the individual fracture but for the entire structure of these bones as a unit. Naturally, in injuries of this structural unit many complications may follow.

As was stated above, severe injuries of the facial bones are not usually destructive of life unless associated with a fracture of the ethmoid bone or skull. Usually associated with this type of injury are shock and hemorrhage, plus other bodily injuries. Therefore treatment may be deferred for several days while the general condition of the patient is improved. They then become of secondary importance pending treatment of the shock and hemorrhage. It is not the intention of this paper to outline the treatment of shock or hemorrhage, as these conditions are known to all of us, but it is to be emphasized that the treatment of these two is of primary importance. Hemorrhage is relatively easily controlled in this area by pressure, but control of hemorrhage elsewhere may be a difficult procedure.

The establishment of an adequate airway is not to be overlooked in this type injury. Blood clots and injuries to the anterior portion of the neck with edema of the tissues may interfere with freedom of the air passages. The tongue may drop back into the pharynx and cause an obstruction in a comatosed patient or one who has bilateral fractures of the ascending rami of the mandible. These can usually be managed by ordinary methods of aspirating the clots from the hypopharynx and trachea and by pulling the tongue forward and placing a suture of heavy silk through it to maintain its forward position. If necessary, tracheotomy may be used to maintain this airway.

Injuries to the overlying soft tissues should be corrected as soon as possible. Early repair of soft tissue damage reduces to a large extent the possibility of infection in the deeper tissues and is especially advisable for the prevention of osteomyelitis as well as meningitis. It also decreases the inflammatory reaction, thus minimizing scar tissue. Thorough cleansing of the parts under strict asepsis must be carried out. Soap, water and hydrogen peroxide are usually considered adequate. Meticulous care in the apposition of the various layers of the soft tissues should be taken. All bleeding points must be controlled before closure is effected, and immobilization of the part must be maintained. If a hematoma develops, it should be removed at first notice, and, if necessary, drainage should be instituted. This is well accomplished by the use of a rubber band in that

it provides an opening for drainage and likewise produces a minimum defect. We emphasize meticulous care as it may make subsequent operative procedures unnecessary.

It is considered that the immediate plastic repair of gross defects such as the loss of an ear, nose or eyelid is not to be done at this time. In a case such as this the wounds are left open, and, if involving mucous membrane such as in the cheek, the mucous membrane should be sutured to the skin and the reconstruction undertaken at a later date. However, with the associated injuries of the facial bones, their treatment should still be carried out early.

Perhaps the most severe injuries of the facial bones are those associated with the fracture of the ethmoid bone, with resulting spicules of the cribriform plate puncturing the dura. Here, the presence of spinal fluid drainage is readily noted, and a simple but crude diagnostic test for the examination of the secretions from the nose in this regard is done by placing a piece of linen under the nose; in the event that the drainage is spinal fluid, it will stain the linen pink but will not stiffen it. The contrary is true if it is mucus. If the drainage is spinal fluid, little is to be done until the patient has been saturated with antibiotics and chemotherapeutic agents. The manipulation of facial bones should be left alone for 10 to 12 days. If it is determined that the ethmoid has been fractured, a neurosurgeon should be consulted and, if necessary, the spicules of bone may be removed by an open operation. Following this the necessary treatment of the other facial bones may be carried out.

At this point emphasis cannot be placed too strongly upon the fact that in any procedure in the treatment of facial injuries, thorough knowledge and estimation of tissue destruction should be completely understood. It is in hurried cases without adequate study and planned treatment that the poor functional and cosmetic results are obtained, for the majority of these complicated and serious fractures require considerable pre-operative planning. The treatment of any fracture is successful only when the continuity of bone has been established, whether it be tibia or mandible or any other bone, but unless restoration of the occlusion of teeth has been accomplished, the treatment of the fracture of a jaw is unsuccessful. To quote John Erich, "No single word has greater significance in any discussion of fractures of the jaws than does the term *occlusion*, and no factor serves as a better guide for determining the position of fragments than does occlusion of the teeth." This can be accomplished by the use of study models and complete jaw and

dental roentgenograms, followed by immobilization.

Traumatic injuries to the middle third of the face usually involve the nose, the orbit, the maxillary antrum and the tooth-bearing segment of the maxilla, and can be followed by many undesirable dental, nasal and esthetic complications. Subdividing these, obstruction to the airways, anosmia, deformity and buckling of the nasal septum are some of the complications that arise in the nasal area. Those involving the orbit are diplopia, detachment of the retina, injury to the lacrimal sac and gross pathology of the eyeball proper. With those in the maxillary antrum and tooth-bearing segment of the maxilla, facial asymmetry, chronic sinusitis, malocclusion with interference of mastication are most common, and an injury to the maxillary division of the fifth nerve may cause anesthesia, neuralgia or hyperalgesia.

Osteomyelitis is a serious complication, and every measure should be taken to prevent the infection of bones of the face. Some of the steps which aid in the prevention of this dreaded complication are the removal of debris, the repair of soft tissue damage, the removal of certain teeth if they are in the line of fracture—and here we will say that certain teeth should be removed with the establishment of through and through drainage, especially if the fracture is in the mandible. Restraint from open reduction of fractures of the jaw and the limited use of skeletal traction or external pin fixation will further reduce the possibilities of osteomyelitis.

The most common type of fracture of the maxilla is defined as the horizontal or transverse fracture of the upper jaw. It is noted in this type fracture that the segment is almost completely detached.

Next is the pyramidal-facial fracture, and it is easily understood why it is so named. This extends upward through each antrum to the ethmoid region and the base of the nose. In this form the loose fragment is composed of the entire maxilla and the nasal bones and is often associated with a depressed or comminuted fracture of one malar bone.

The third type is sometimes referred to as a transverse-facial fracture, passing through the base of the nasal and ethmoid regions and across the orbits to the zygomatic arches. This fracture is of such character that the upper jaw, malar and nasal bones constitute one complete displaced structure. It should be emphasized that two or more of these fractures may exist in the same case. Furthermore, fractures of the malar, nasal and ethmoid bones are frequently encountered in connection with severe fractures of the upper jaw.

Fractures of the nasal bones should be reduced as soon as possible; fractures of the malar bones should be accomplished within 7 to 10 days; and these all may be done when a complete understanding of the existing conditions is had. Fractures of the mandible are handled in the same fashion, and the use of various means of traction should be employed.

In summary, traumatic injuries to the facial bones are becoming more frequent and demand greater skill in their management. Attention to shock, hemorrhage and the establishment of an adequate airway are the prime considerations. Free use of consultation by the plastic surgeon with the neurosurgeon, oral surgeon and otolaryngologist is advocated. Complete x-ray studies with a full understanding of tissue loss and planned treatment, the restoration of occlusion of teeth and the reduction of fractures are the ultimate aims for esthetic and mental recovery. A plea is hereby made for the applications of the principles of plastic surgery in the management of these injuries.

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REPORT OF CASE OF ACUTE YELLOW ATROPHY IN PREGNANCY WITH RECOVERY

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Acute yellow atrophy of the liver is a rare disease, occurring once in 16,000 cases of pregnancy. According to various authors—Freund, Edgar, and De Lee—recovery is rare. The following is the report of the recovery of what is believed to be such a case:

Mrs. D. C., 18 years of age, white, female, gravida II, para II, was admitted to St. Joseph's Mercy Hospital, Dubuque, Iowa, in active labor on March 8, 1948, approximately 8 months pregnant. Previous history was essentially negative. Her last menstrual period was July 7, 1947. The patient had been admitted to the hospital on Dec. 30, 1947, for painless vaginal bleeding. Vaginal examination was not made at that time, but roentgenologic studies ruled out placenta previa. An uneventful recovery was made following the administration of vitamin K and 500 cc. of plasma. The Wassermann test and urinalysis were negative. The patient was discharged from the hospital after five days and had been seen weekly until onset of active labor.

On readmission to the hospital on March 8, 1948, the patient expelled dark brown vomitus and was markedly jaundiced, both of which had appeared less than 24 hours before entrance to the hospital. A 5 pound 7 ounce premature male infant, who appeared to be in good condition, was delivered spontaneously after a two hour labor. The vomiting continued with hematemesis. The urine was dark brown, and, despite marked icterus of conjunctivae and skin, the patient insisted that she felt excellent. The temperature was normal, and the blood pressure 100/64. The gravity of the situation was immediately recognized, and the family was so informed. Neither the liver nor the spleen was palpable on admission. (See accompanying charts for comparative laboratory studies.)

Table 1.

Date	Alb.	Sugar	Acetone	Bile	WBC	RBC	Casts.
3-9	+	0	trace	+	occ.	0	2-3
3-11	0	0	0	+	30-45	clumped	neg.
3-13	trace	+	0	+	60-70	1-3	neg.
3-14	+	0	0	+	50-60	occ.	neg.
3-15	0	0	0	+	5-10	0	0
3-16	+	0	0	+	occ.	100-130	0
3-17	0	+	0	+	15-20	occ.	0
3-18	+	0	0	+	15-20	occ.	0
3-19	trace	0	0	+	8-10	neg.	occ. hyaline
3-21	trace	+	0	+	15-25	1-2	0
3-22	0	0	0	+	80-90	1-3	1-3 granules
3-23	+	0	0	+	5-7	neg.	occ. granules
3-24	0	0	0	+	10-15	0	0
3-25	trace	0	0	+	15-20	0	occ. granules
3-26	0	0	0	+	1-5	0	occ. granules

Table 2.

Date	RBC	WBC	Hgb.	Polys.	Lymph.	Platelet
3-13	4.0	36,050	14	90	10	198,000
3-12	4.82	36,150	14.5	78	16	180,000
3-13	.....	37,900	.....	.....	.....	.....
3-14	4.84	27,500	15.0	86	11	200,000
3-15	5.05	30,000	15.5	79	16	.....
3-16	.....	26,100	.....	.....	.....	.....
3-17	.....	19,500	.....	.....	.....	182,000
3-18	.....	22,800	.....	.....	.....	.....
3-19	.....	19,500	.....	.....	.....	.....
3-20	.....	16,800	.....	.....	.....	.....
3-21	.....	15,700	.....	.....	.....	.....
3-22	.....	18,100	.....	.....	.....	.....
3-23	.....	13,700	.....	.....	.....	.....
3-24	.....	12,100	.....	.....	.....	.....
3-25	.....	11,900	.....	.....	.....	.....
3-26	.....	13,900	.....	.....	.....	.....

Table 3.

Date	Urobilinogen	Bilirubin (0.2-0.8)	Prothrombin
3-11	Pos. 1:10	Positive	30 sec. 40%
3-12	Pos. 1:5	Borderline	32 sec. 30%
3-13	Pos. 1:5	Borderline	.....
3-15	Pos. 1:2	Normal	.....
3-16	Pos. 1:10	Strongly positive, 16.85 mg.	.....

Table 4.

Date	Ser. Alb. (4-5)	Ser. Glob. (2-2.5)	Cholesterol (150-250)	van den Bergh
3-11	3.9	1.8	143 mg.	Dir: delayed direct Indir: 9.25 mg.
3-12	.....	.....	140 mg.	.....
3-17	2.93	2.0	.....	Dir: Immed. dir. react. Indir: 16.90 mg.
3-25	.....	.....	.....	Dir: 19.4 mg. Indir: Immed. dir. react.
3-30	.....	.....	.....	Dir: 7.95 Indir: Immed. dir. react.
4-5	.....	.....	.....	Indir: 6.7
4-9	.....	.....	.....	.....

Despite hypertonic glucose given intravenously and supplemented by nasal suction, oxygen therapy, amino acids, and vitamin B complex, the condition of the patient became progressively worse until the eighth day when a slight response from her comatose condition was noted. She no longer had the periodic episodes of moaning and restlessness, which characterized her early puerperium. At no time did she have a convulsion nor a temperature over 100 F. On the third day postpartum she developed a relative anuria. Catheterization yielded only 50 cc. of heavy amber urine. On the sixth day postpartum an indwelling catheter was inserted.

The patient was discharged from the hospital on her thirty-second postpartum day with only a slight jaundice and with urine and blood studies as reported in the accompanying chart. Dietary instructions were given. Her condition three months later had returned to normal with negative urine and palpable liver. Future pregnancies were discouraged.

Discussion

In view of the findings in this patient it is instructive to review the recent work done on the function of the liver during pregnancy. Recognition is increasingly being given to the problem of hepatitis following the prophylactic or therapeutic administration of human blood and/or its products. As yet, no method of prevention of homologous serum jaundice has been devised, and its relation to hepatitis requires further clarification. Homologous serum jaundice is a form of acute hepatitis which follows receipt of human blood, plasma or one of its derivatives, after an interval of 40 to 180 days. This condition was considered in the early differential diagnosis, especially since our patient had received plasma 70 days before the onset of her jaundice.

Some authors feel that a positive diagnosis of acute yellow atrophy can only be made if leucine and tyrosine crystals are found in the urine. However, reports on cases by Ellison Hunter and others fail to substantiate this assertion. Repeated examinations in our own case failed to reveal the presence of such crystals. There is no question that the recovery followed a rapid regeneration of the liver tissue, which was evidenced by the blood chemical findings and roentgenologic studies.

Reference is likewise made to the relationship of toxemic states to acute yellow atrophy. The careful studies of Aberholden have revealed that the blood of every pregnant female animal contains enzymes which have a specific proteolytic action, and so the possibility exists that abnormal or excessive products of such proteolysis or a lack

of adequate defensive digestion may be responsible for the toxemia of pregnancy. The toxins that are usually liberated in such conditions act harmfully upon the liver and kidneys, impairing their functions of detoxication and elimination, and in this way lead to the establishment of a vicious cycle. When their poisons affect the liver more and the other tissues less, we approach the condition of acute yellow atrophy—i.e., if the amount of toxin is not so great as to be fatal to the patient through injury to the vital organs after a few days, the necrosed liver cells undergo autolysis, and, if enough have been destroyed, hepatic insufficiency may cause death.

From the etiologic standpoint many cases of acute yellow atrophy or icterus gravis have been in pregnant women. It is further significant that in the majority of these none of the usual predisposing factors—chloroform, mercury, phosphorus, cinchophen, arsenic, and puerperal gas bacillus infection—are present. The etiology in our case is likewise unknown. The complete findings in our case are presented with the hope that a gradual accumulation of clinical, pathologic and chemical data may ultimately lead to an early recognition and better understanding of the etiology of the disease.

It is unfortunate that at present the condition is still recognized too late to always affect a cure. The fact cannot be stressed too highly that at the first appearance of the early symptoms of vomiting, headache, dizziness, and sometimes sharp abdominal pain in a pregnant woman, where the cause is not evident, the patient should be hospitalized where careful urine and blood chemistry studies may be made in order to rule out a beginning acute yellow atrophy. Just the absence of demonstrable skin or scleral jaundice does not rule out early acute yellow atrophy of the liver.

Discussion of Laboratory and Clinical Findings

From the clinical picture immediately after her admission to the hospital it was thought that she was suffering from liver damage. The immediate direct van den Bergh test pointed to a toxic or infectious hepatic jaundice. In acute yellow atrophy the biphasic van den Bergh is often observed, due undoubtedly to both damage to the liver cells and obstruction in the bile passages from cholangitis, the latter giving prompt direct reaction and the former the delayed one.

It is of great significance that the patient presented herself for a routine prenatal examination five days before her second admission to the hospital, with no evidence of jaundice, vomiting, dizziness, headache nor albuminuria, and her blood pressure was 124/82. Outstanding on admission

to the hospital was her jaundice, nausea, vomiting and relative tachycardia.

Treatment

As soon as liver damage, presumably from some type of acute yellow atrophy, was suspected, the patient received glucose therapy intravenously with vitamin B complex and amino acids. Extreme restlessness was controlled with 100 mg. demerol. Nasal suction was instituted for relief from extreme retching. Oxygen therapy (tent) was started on the second postpartum day when she became quite dyspneal.

Since this patient showed a leukocytosis of 36,050 and 90 per cent polymorphonuclears, she was given 300,000 units of penicillin daily, later increased to 900,000 units. It should be stated that she was delivered with the aid of light ether anesthesia. We were fully aware of the dangers involved. General anesthesia, however slight, produces some liver impairment. Regional anesthesia is advised when liver damage is suspected.

Summary

A case believed to be acute yellow atrophy occurring in a woman of eight months gestation is described. Initial symptoms of vomiting, jaundice, dizziness and tachycardia first appeared less than 24 hours before admission.

When the diagnosis of acute yellow atrophy is made, the therapy of choice is massive doses of glucose, with vitamin B complex and amino acids. The restlessness must be controlled. Demerol was used in this case.

Conclusions

1. Symptoms of persistent vomiting, jaundice, dizziness and tachycardia in a pregnant woman, especially near term, warrant careful investigation as to etiology, and, unless explainable, are sufficient reasons for hospitalization in order that careful blood and urine investigation may be carried out.

2. In combination with above symptoms and presence of icterus and drowsiness, the diagnosis of liver damage is almost certain.

3. When the diagnosis is made, hypertonic glucose therapy (intravenously) should be started at once.

4. General anesthesia at the time of delivery is contraindicated in acute yellow atrophy.

5. Case presented is considered one of acute yellow atrophy with subsequent recovery.

6. A follow-up study of three years with adequate laboratory studies will prove of interest. Should this case be truly one of atrophy, or massive hepatic necrosis as we now know it, she undoubtedly will suffer from residual symptoms in the not too distant future.

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November 30, 1949**

Summary of Clinical Record

A 48 year old white unmarried farm laborer was admitted to the hospital April 7, 1949, with pain in his legs. The patient had been seen in this hospital in 1944 for a myofascial strain. At that time several examiners noted a to-and-fro murmur at the base of the heart. The heart size was within normal limits. The blood pressure was recorded on two occasions as 160/80 and 122/70. There were no symptoms suggestive of cardiovascular disease. The single urine analysis was negative for albumin, blood and sugar. Specific gravity was 1.018. Microscopic examination of a centrifuged specimen revealed 2 granular casts per high power field, but no red or white blood cells were noted. The erythrocyte count was 4.74 million; leukocyte count was 7,200 cells per cu. mm.

Two months before the last admission the patient noted the onset of a dull aching pain in his legs and ankles associated with swelling of legs. The swelling seemed to appear after he had walked any distance. In an attempt to relieve the pain and swelling a tight bandage was applied to the legs, only to result in swelling of the thighs. Shortly after the onset of this illness the patient complained of pain in the elbows but noted no swelling or redness about these joints. He was treated at home with bed rest and observed that the swelling disappeared after lying down, al-

though it promptly reappeared upon standing. He stated that the swelling was associated with severe headaches, and he thought that he might have been feverish at times.

One month before admission he noted an outbreak of small red spots on his legs. One week before admission he experienced a brisk nose bleed. He stated that this was like the frequent nose bleeds he had had as a child. The patient had not complained of breathlessness on exertion or difficulty in breathing. He denied having cough or chest pain. He did not complain of flank pain or frequency of urination. The patient became incapacitated because of leg pain, loss of appetite and weight loss.

Physical examination revealed a man with conspicuous pallor who appeared chronically ill. He was comfortable in bed but because of pain in the legs was unable to walk without supporting himself. Purpura was noted over the lower extremities and to a lesser degree over the back and chest. Petechiae were observed in the mouth and conjunctival sac. A fundoscopic examination of the eyes was reported negative. Marked dental caries were present. The lungs were reported clear to auscultation and percussion. Blood pressure was 100/40; pulse rate 96 per minute, and the rhythm regular. The heart was not enlarged as estimated by palpation and percussion. No thrill was palpable. The heart sounds were of normal intensity. A well localized to-and-fro murmur was audible in the second and third intercostal space just to the left of the sternum. The abdomen was held rigid, although no tenderness was present. The spleen was palpable about 3 fingerbreadths below the left costal margin. The liver edge was not palpable. The rectal examination was negative, but a chemical test for occult blood of the stool was not recorded. There was no evidence of edema of the lower extremities nor were deformities of the knees or ankle joints noted.

The blood serologic tests for syphilis were negative. The urine had a pH of 5.5 and a specific gravity ranging from 1.010 to 1.012, a 2 plus test for albumin, a 3 plus test for blood and a negative chemical determination for sugar. There were many red blood cells, white blood cells and granular casts by microscopic examination. The erythrocyte count was 2,200,000 per cu. mm. and the white blood cell count 5,400. The differential count showed 79 per cent segmented neutrophils, 17 per cent lymphocytes and 3 per cent monocytes. The bleeding time was 1 minute, 45 seconds; coagulation time, 5 minutes; prothrombin time 41 seconds (control 36.9 seconds). The Rumpel Leede test was negative. Clot retractility was

complete. The blood urea nitrogen was 73 mg. per 100 ml. and the blood creatinine 5.2 mg. A sternal marrow aspiration showed myeloid hyperplasia. The erythrocyte sedimentation rate was 142 mm. in 60 minutes. An x-ray film of the chest was reported as "healthy chest," though a crescentic plaque of calcium was noted in the aortic knob. The EKG was normal. Skull films showed evidence of calcification of the petroclinoid ligaments. Several blood cultures were made. The serum protein was 7.24 gm. per 100 ml., with albumin of 3.50 gm. and globulin of 3.75 gm. per 100 ml.

During the entire stay in the hospital the temperature remained normal. By April 16 several blood cultures were considered negative or contaminated. Penicillin therapy was started on this day. On April 23 a shower of petechiae were noted on the lower extremities. On April 30 the patient suddenly became short of breath but responded to aminophylline. A few hours later he again became short of breath—rales were noted in the lungs. The patient was suddenly seized with a generalized convulsion lasting several minutes and followed by sleep. Residual paralysis was not observed. The patient was digitalized and given three blood transfusions over the next four days, and his general condition seemed to improve. An EKG taken on May 3 showed a low T wave in lead I, diphasic T wave in lead II and V6 and a P-R interval of .22 seconds. The form of the QRS complex remained unaltered. On this date a portable x-ray film of the chest was considered unsatisfactory for the estimation of cardiac size. On May 3 at 1745 hours the patient became severely dyspneal and cyanotic. The chest was reported as clear. The patient was treated with oxygen and aminophylline. A transfusion of 500 ml. of washed erythrocytes was given slowly. The patient improved and was resting comfortably at midnight, without dyspnea or cyanosis. On May 4 at 0030 hours the patient again became dyspneal and cyanotic. The heart rate was 150 beats per minute, and the rhythm was totally irregular. A dose of 0.4 mg. of digoxin was administered intravenously. By 0130 hours the rate was 90 per minute and regular. The patient was extremely apprehensive and was thrashing about in the bed. Morphine sulfate 16 mg. was given by hypodermic injection. He rested well until 0430 hours and died a few minutes later.

Dr. Henry Hamilton (Medicine): This is a 48 year old man who as a child had frequent nosebleeds, enjoyed excellent health as an adult, became ill two months before admission with severe leg pains and edema, and entered the hospital

with anemia, hematuria and nitrogen retention. A heart murmur was detected; he was afebrile in the hospital and died after several episodes of dyspnea and cyanosis. How did the students explain this clinical course?

Student: Among the possibilities discussed were those on an infectious basis, such as subacute bacterial endocarditis, acute glomerulonephritis or brucellosis, and the allergic or degenerative tissue diseases, such as disseminated lupus, erythematosis and Libman-Sacks disease, polyarthritis nodosa, idiopathic purpura and acute rheumatic fever. Other possibilities were aleukemic myelogenous leukemia, multiple myeloma and congenital cardiac anomalies, such as a patent ductus arteriosus or an interventricular or interauricular septal defect. In the vote at the end of discussion the majority favored subacute bacterial endocarditis, with acute glomerulonephritis of a focal embolic nature and a congenital septal defect or patent ductus. Two were in favor of a disseminated lupus erythematosis and Libman-Sacks disease. Two believed that it was an aleukemic phase of myelogenous leukemia. One thought that it was multiple myeloma. The majority believed that the terminal event was acute cardiac failure and that there were several episodes of pulmonary embolism.

Dr. Hamilton: I believe the outstanding points were the presence of many purpuric lesions, the profound anemia, the severe pallor, the painful joints and the fact that the patient was afebrile. Several hematologic disorders were originally considered. One was lymphatic leukemia. In adults lymphatic leukemia rarely presents severe bone pains, although we had such a case last year. I think that leukemia of any sort can be excluded on the basis of the initial examination of the bone marrow and the peripheral blood smear. I believe the myeloid hyperplasia is consistent with either infection or a blood loss anemia. The high globulin content, the bone pains and the anemias suggest multiple myeloma. This can be ruled out on the basis of the essentially negative skull film and the absence of myeloma cells in the bone marrow. I believe purpura due to low platelets can be excluded because the clot retractility was normal and it takes a fair complement of platelets to make the clot retract. The normal prothrombin time rules out the possibility of a disorder of ordinary blood-clotting mechanisms. I think the normal bleeding, clotting time and the Rumpel-Leede test also rule out a host of other disorders of the hematopoietic system.

A few days after admission to the hospital this patient was found to have a considerably elevated blood urea nitrogen and creatine. With this seri-

ous degree of nitrogen retention, hematuria, albuminuria and casts I believe this man must have had an acute glomerulonephritis. Could an acute glomerulonephritis explain everything in this protocol, such as the pallor, reversal of the AG ratio, dependent edema, hematuria, hemorrhagic tendencies and, finally, pericarditis with congestive heart failure? It was noted that he had convulsions terminally and that's also noted in terminal nephritis. There are factors in this protocol that are not explained by acute glomerulonephritis, and they are an enlarged spleen, low blood pressure, severe pains in the legs and normal heart size.

I think there is one other point in this physical examination that may or may not be of importance, that is, the to-and-fro murmur audible over the base of the heart. As far as the final admission is concerned, we can dismiss the murmur because this patient had anemia, and it is possible to have loud murmurs over the heart incident to anemia. In other words, such conditions as anemia, thyrotoxicosis and fever all increase the minute volume flow through the heart and thereby may produce murmurs. Therefore we are not justified in saying that there is an abnormality of the heart or the great vessels. However, we do have the good fortune in this instance of knowing that a murmur existed four years ago. I assume because it was heard when his blood counts were normal that there is some underlying cardiovascular anatomic abnormality. When an anatomic abnormality of the heart or great vessels exists, the structure is subject to bacterial infection resulting in a bacterial endocarditis or endarteritis. I think bacterial endocarditis also would explain practically everything in this protocol. Because we have few positive cardiovascular signs to go on here, it's going to be quite difficult to actually localize this lesion. There was a systolic and diastolic murmur well localized in the second and third interspace to the left of the sternum, and there was wide pulse pressure with a low diastolic pressure. These are the only important positive cardiovascular findings. In the absence of a demonstrable enlargement of the heart and the basal location of the murmurs, and the fact that the heart tones were described as normal, I believe that we can rule out mitral heart disease, pulmonic valve disease, tricuspid disease or transposition of the great vessels. Now, with the paucity of signs and the locations of the murmur, I believe that the Achilles heel will be found either in the aortic valve or in the great vessels. I think a congenital anomaly of subaortic stenosis can be ruled out because this patient did have a diastolic murmur and had a low diastolic pressure.

Syphilitic aortitis with involvement of the aortic valve is a possible diagnosis by virtue of the fact that a plaque of calcium was noted in the shadow of the aortic knob. This would explain the low diastolic pressure. I bring this possibility up because it's been shown in 122 cases of syphilitic aortitis that around 18 per cent had calcium in the ascending aorta, whereas in 100 cases with atherosclerosis of the aorta there were only 2 per cent with calcium in the ascending aorta. I think we can rule this out because the serologic tests for syphilis were negative. Now that isn't 100 per cent true because this type of syphilitic lesion could represent an old burnt-out case. Furthermore, subacute bacterial endocarditis is not infrequently found on a syphilitic valve. I noticed this patient had frequent nose bleeds as a child. An old rheumatic aortic valve lesion would explain the systolic and diastolic murmur and the low diastolic pressure. However, they were unable to obtain, or had great difficulty in obtaining, positive blood cultures. In general, it is easy to get positive blood cultures in bacterial endocarditis involving the aortic valve. I think there's one exception to this argument, the difficulty in getting a positive culture in a *Brucella* infection, and I note from the protocol the patient was a farmer. Another point against the possibility of an aortic valve lesion is the apparent absence of left ventricular enlargement, at least, as estimated clinically and as noted by the x-ray film on admission. Furthermore, the course was afebrile. In the absence of ordinary fever, how are we going to diagnose subacute bacterial endocarditis? Lesions that cause predominant right-sided bacterial endocarditis are interauricular septal defect, interventricular septal defect and patent ductus arteriosus. Under these circumstances the vegetations on any one of those defects and the blood from the left heart and into the lungs and do not get into the peripheral circulation. I think we can rule out septal defects in the presence of the diastolic murmurs and confine ourselves to patent ductus arteriosus. There is a well localized systolic and diastolic murmur in the second interspace left of the sternum. It is risky to make a diagnosis of patent ductus arteriosus in an adult without having a continuous murmur through systole and diastole. This man lived 44 years without any enlargement of the heart or any signs or symptoms referable to diminished cardiac reserve, so I assume it would be a small duct. I believe the plaque of calcium noted in the x-ray might well be superimposed on the aortic knob and not in the aorta itself, but it may be a calcified patent ductus. I believe also we

have some indications that this patient had pulmonary emboli, with their origin in the duct by virtue of the fact that he was afebrile and we were unable to get positive cultures even though he was having showers of petechiae.

Another point to bring out is that these lesions did not suppurate. I think such lesions can possibly be explained on the basis of hypersensitivity to bacterial products. Similar reactions may occur in the vessels of the kidney and thereby give rise to the typical lesions of acute glomerulonephritis. In general, emboli from valves in subacute bacterial endocarditis do not produce severe enough kidney lesions to cause renal failure. If the ductus was responsible for this condition, why did the diastolic pressure drop? I think this is against the argument of a ductus. Four years ago he had a normal blood pressure, and this time he had a low diastolic pressure. I think one possible explanation would be as follows: When the duct closed early after birth or partially closed, it may have closed by a membrane at the pulmonic end. Such rare cases have been reported. With the superimposed subacute bacterial endarteritis, the membrane was ruptured and thereby permitted a much greater flow of blood in diastole from the aorta to the pulmonic circuit. We have no evidence that the aorta or the aortic valve has been involved, and I don't see how vegetation could possibly creep retrograde up the aorta from the patent ductus to the aortic valve. I'm not totally satisfied with this explanation for the low diastolic pressure.

What did this patient die from? Quite obviously, he had nephritis with renal failure, and he certainly could have died from congestive heart failure. I don't believe that this is the entire answer. First of all, he had sudden episodes of dyspnea and cyanosis. These are due primarily to embolic phenomena. Their origin in the ductus arteriosus. These came on with great suddenness, and it was noted that even minute pulmonary emboli may produce severe signs and symptoms leading to death. I think the convulsions may well have been due not to a cerebral embolus but to a decrease in blood flow following pulmonary embolism. The sudden onset of tachycardia here is consistent with pulmonary emboli. A point against left ventricular failure is the fact that this patient improved following three transfusions. I believe therefore that this patient had a patent ductus arteriosus with an acquired bacterial endarteritis, and that as secondary factors he had anemia, acute glomerulonephritis, renal failure and cardiorespiratory failure, incident primarily to pulmonary emboli and cardiac failure.

Student: Did this patient have any bleeding from the intestinal tract?

Dr. Hamilton: I notice that a rectal examination was recorded as negative, but we can't say that it was truly negative because there was no examination for occult blood.

Dr. Van Epps (Radiology): The first film on this patient was taken soon after his first admission to the hospital and on the requisition accompanying the patient was the statement that the patient had some sort of purpura and that he had had a chest examination which was negative. I would like to draw your attention to a shadow of calcium deposit present in the region of the aortic knob. That's not an unusual finding in patients, particularly in the older age group, but in a man 44 years of age it should be of some significance. The vascular markings of each hilum are not engorged, and there is nothing as far as I'm concerned to indicate the presence of a vascular shunt. The heart is not unusual either in size or contour. The lung fields are perfectly all right. Therefore the presence of a curvilinear plaque of calcium density in the aortic knob in a 44 year old male was considered unusual and was so mentioned without any comment made as to its significance.

Two days later the patient had a fluoroscopic examination, at which time the following pertinent findings were noted: In the posterior-anterior projection there was definite hilar engorgement in that there were active pulsations noted at each hilum, indicating the presence of a vascular shunt. At no time in my experience have I seen actual pulsating pulmonary arteries in the hilum on any other basis except a congenital lesion. We do see increased amplitude of pulsation of the left ventricle and the aorta in patients who have aortic insufficiency, hyperthyroidism or acute infections. However, the amplitude of pulsation that this patient exhibited was out of all proportion to any of the findings that had been present and is a common and pathognomonic sign, as far as the radiologists are concerned, in patent ductus arteriosus. In the left anterior oblique view we do not notice any evidence of right ventricular enlargement, but there is definite retrodisplacement of the ventricle in the degree of about 3 plus. On fluoroscopy a calcific density was seen to lie close to the junction of the pulmonary artery and the aorta. It was not present within the aortic knob, and therefore we felt that this was calcification within a ductus close to its aortic insertion. Based upon these findings we felt that this individual quite likely had a patent ductus with calcification within it.

Dr. Hamilton: Can the anemia account for all the abnormal fluoroscopic findings?

Dr. Van Epps: In children that amount of anemia will give a good-sized heart, apparently involving both sides, and it will not respond for many weeks of therapy.

Dr. Hamilton: How can anemia give a hilar dance? I was of the opinion that it could.

Dr. Van Epps: From my own experience I have never seen it, and I have not seen it even in marked insufficient lesions in which the blood pressure may be 180/0. There is increased amplitude but not the true hilar pulsation such as this patient exhibited.

Dr. Hamilton: You wouldn't expect a hilar dance with a blood pressure of 180/0?

Dr. Van Epps: No, I have not seen it; the only hilar dance that I have seen is that on a basis of interventricular defects or those septal defects plus patent ductus arteriosus.

Student: Could the fact that the patient had two granular casts in 1944 suggest the possibility of chronic glomerulonephritis instead of acute?

Dr. Hamilton: That certainly is a good point. I don't know what significance to place on this single isolated laboratory examination, particularly in the absence of albumin and microscopic blood and white cells. When I was in the tropics we occasionally received reports from the laboratory of granular casts in the urine. The soldiers involved did not have renal disease in the ordinary sense. They were usually febrile and dehydrated. The point to make here is that several urine specimens should have been examined to see if this was a constant finding.

Clinical Diagnosis

Subacute bacterial endocarditis.

Necropsy Diagnosis

The principal lesions were those of the heart and major vessels, kidneys and brain. There was a patent ductus arteriosus approximately 2 cm. in length and 3 mm. in diameter. The aortic wall immediately adjacent to the orifice of the ductus was the site of partially calcified verrucose vegetations. At this point a small fistulous tract led from the aorta to the bifurcation of the pulmonary artery. Additional vegetations were present on the aortic valve cusps. There was a moderate degree of cardiac hypertrophy and a mild subacute fibrinous pericarditis. The lungs were congested and edematous, and liver and spleen were chronically congested. The kidneys showed considerable histologic evidence of disease, including extensive glomerular lesions of focal embolic nature and diffuse lower nephron damage

and regeneration. A small abscess or septic infarct was present in the medulla, and a similar lesion was found in the right occipital lobe of the brain.

Postmortem blood cultures were sterile, but chemical determinations showed a moderately severe degree of azotemia (blood urea nitrogen 170 mg. per cent; creatinine 12.5 mg. per cent). Incidental diagnoses included mild acute gastric dilatation, probably terminal.

Death was due to congestive heart failure secondary to subacute bacterial endocarditis involving a patent ductus arteriosus and the aortic valve complicated by renal failure due to focal embolic glomerulonephritis and diffuse tubular damage.



Fig. 1. Verrucose vegetations of aortic valve cusps.

Necropsy Diagnoses

Patent ductus arteriosus.

Subacute bacterial endocarditis (nonhemolytic *Streptococcus*) involving patent ductus arteriosus and aortic valve.

Congestive heart failure, secondary to above conditions.

Cardiac hypertrophy, moderate.

Focal embolic glomerulonephritis, with diffuse tubular damage and regeneration, bilateral, severe.

Brain abscesses, medulla and right occipital lobe.

Pericarditis, subacute, mild.

Azotemia, moderately severe.

Dr. F. W. Stamler (Pathology): This man did have a patent ductus arteriosus, which was about 3 mm. in diameter, patent throughout its length and free of vegetations. However, the aorta surrounding the orifice of the ductus was the site of considerable disease. There were calcific lesions of the aorta and small verrucose vegetations of the intimal surface. At a point about 1 cm. from the patent ductus there was a friable vegetation with extension of the disease process through the wall of the aorta and the pulmonary artery to form a small sinus tract between these two structures. In addition, there were vegetations of the aortic valve. These were, in part, fresh friable vegetations, but there was considerable scar-

ring and calcification of the aortic valve cusps to indicate injury of much longer duration. There was a moderate degree of cardiac hypertrophy. The heart weighed 450 gm., and there was mild subacute fibrinous pericarditis. There was considerable evidence of congestive heart failure. The heart itself was dilated; the lungs were congested and edematous; the liver and spleen were chronically congested, and there were mild ascites and edema. The kidneys were badly diseased and showed a combination of several processes. There was extensive glomerular damage, which appeared partially to be of a focal embolic nature, although in many of the individual glomeruli the lesions



Fig. 2. Patent ductus arteriosus with vegetation of adjacent aortic intima.

could fit very well with ordinary glomerulonephritis. However there were a considerable number of glomeruli which contained small hyaline thrombi filling the glomerular capillaries and in some instances the glomerular arterioles. If we accept the concept of Bell and others in regard to these, that they originate as minute septic emboli with consequent extension of thrombosis of vessels of the glomerulus, they fit well into this category.

In addition to the glomerular lesions there were extensive tubular lesions. Many of the collecting tubules and the lower nephron secretory tubules contained casts, some of which contained whole and degenerating blood cells. Many pigmented casts were present. The tubular epithelium itself contained considerable hemosiderin, and there was extensive degeneration and necrosis, with some regeneration of tubular epithelium. The tubular lesions appeared too severe and extensive to be explained as part of the glomerular process and fitted rather well into the category of lower nephron nephrosis. Postmortem blood cultures were sterile, but chemical determinations showed a moderately severe degree of azotemia (blood urea nitrogen 170 mg. per cent; creatinine 12.5 mg. per cent). Incidental diagnoses included mild acute gastric dilatation, probably terminal and not of great significance.

Dr. Wm. Bran (Medicine): Was the primary site on the aortic valve or near the ductus?

Dr. Stamler: They were both involved by active processes with old scarring and calcification from an older disease process. I think both had been involved in the old process and the final episode.

Dr. Eckhardt (Medicine): Was there microscopic evidence of embolic phenomenon in the lungs and also in the brain?

Dr. Stamler: There were several small septic infarcts or abscesses in the brain. One of these was found in the medulla and one was found in the right occipital lobe. No other embolic manifestations were found.

Dr. Franklin (Medicine): What organism was found?

Dr. Stamler: Postmortem blood cultures were negative. There was a *Pseudomonas* grown from the pericardial exudate. I don't believe that the vegetation itself was cultured.

Dr. Franklin: Did they find one during life?

Dr. Hamilton: Yes, Dr. McKee will report on the blood cultures. I'd like to have Dr. Stamler answer one question: Was the integrity of the aortic valve intact?

Dr. Stamler: One cusp was severely damaged. All of the edges appeared to be rolled back and retracted. I should think there might be some insufficiency, but I can't say how much.

Dr. Hamilton: Would you say that it was incompetent? After all, four years ago he had a normal blood pressure, and on this admission he had a low diastolic pressure. Do you think it could be due to the aortic valve or is it impossible to say?

Dr. Stamler: Aortic measurements were quite within normal limits. I don't think there would be any severe degree of incompetence of the valve.

Dr. Carr (Medicine): Can you give an estimate from your microscopic findings about how long these lesions have been present?

Dr. Stamler: The vegetative lesion probably had been present during a matter of weeks or months, as indicated by the degree of organization and hyalinization. That was indicated also by the brain abscesses, which also appeared to be of several weeks duration.

Dr. Embick (Medicine): What did the spleen look like?

Dr. Stamler: The spleen was enlarged and congested. It weighed 450 gm., which is several times normal size, and showed chronic congestion.

Dr. Eckhardt: Were organisms seen microscopically in these lesions at the site of the endocarditis? I ask that because of the deaths that

have been reported following so-called cures. I was wondering if there was evidence that would show an actual bacterial process going on?

Dr. Stamler: I have looked these over carefully and can't convince myself that there are any organisms that can be demonstrated microscopically. There are always a few blue staining fragments which may be nuclear fragments or bits of calcified debris, and these may resemble bacteria, but none could be definitely identified as microorganisms.

Dr. McKee (Bacteriology): We received four antemortem cultures on this patient. The following organisms were cultured from them: nonhemo-

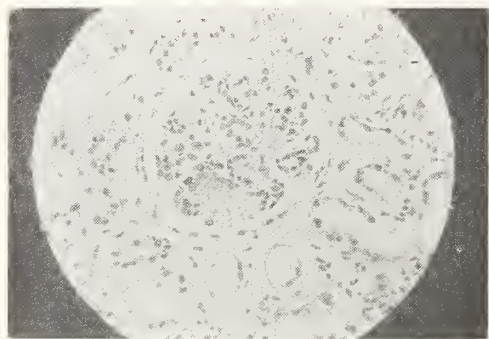


Fig. 3. Kidney: Hyaline thrombus of glomerular capillaries.

lytic Streptococci, *Staphylococcus aureus*, diphtheroids and an alpha hemolytic Streptococcus. This report does not lack variety, need I add. The one postmortem culture was sterile in spite of using penicillinase. I think the point has already been made regarding deaths in spite of sterile cultures, so we needn't be surprised at having a negative culture from autopsy. There would have been perhaps a little better chance of getting a positive culture directly from the heart valves, although these too could have been negative.

Now as to the reason for the variety of organisms here, that isn't as surprising as we might at first think. Certainly anyone who has followed these supposedly causative agents, purposefully omitting the term etiology here, of subacute bacterial endocarditis comes to the conclusion sooner or later that any organism that may be found normally in the mouth may also be found on the heart valve or in the blood cultures sometime during the disease. We would hesitate to try to make a list of the various organisms that have been incriminated as having caused subacute bacterial endocarditis. It certainly is a varied list. To find more than one organism is not the most common feature, and yet it can hardly be considered uncommon. We have found this to be true on a number of occasions, that is, a multiple group, a number of organisms. One bit of ex-

perimental evidence that tends to back up the idea that any organism from the mouth may get into the blood stream and land on this prepared bed (injured valve) is the use of indicator organisms, such as *Serratia marcescens*. This organism is easy to locate and is recognized by its pigment formation; yet it is an organism that is not normally found in the mouth. It has been placed in carious teeth, and with and without rocking the tooth with dental forceps the organisms have appeared soon after in the blood stream. So we are not surprised to find a variety of organisms in the blood stream of subacute bacterial endocarditis patients.

Certainly the most common cause is the alpha hemolytic Streptococcus, which is the most common organism in the normal mouth. Secondly, we probably run into as many nonhemolytic Streptococci as any other organism as the next most common cause.

Dr. Hamilton: Since this represents, at least in part, one of the end results of a ductus arteriosus, and furthermore since this is a complication which under certain circumstances is perhaps preventable, I would like to have Dr. Ehrenhaft say a word about the surgical aspect of this problem, with particular reference to this case or to an adult who comes in with an uncomplicated patent ductus arteriosus.

Dr. J. Ehrenhaft (Surgery): If one considers the case presented this afternoon, one can imagine the difficulties which a surgeon encounters in attempting to treat this type of lesion in persons of the older age group. The difficulties in this man were not only that he had an active bacterial endarteritis and endocarditis but also that there was an unknown second fistula present, which only became known on postmortem examination. In dissecting a lesion of this sort surgically this second fistula undoubtedly may be the reason for acute hemorrhage, and it may even make a lesion of this type inoperable.

The statistics in patent ductus arteriosus vary somewhat, but whatever statistics are being read they all are poor in regard not only to the length of survival of untreated patients afflicted with this congenital deformity but also to the extremely high incidence of complications resulting from it. The oldest patient in the literature known to have this congenital deformity was 58 years in a man and 66 years in a woman. The average age of death ranges between 30 and 35 years. In Maude Abbott's series of 92 postmortem examinations of patent ductus arteriosus in which the patent ductus was the only congenital anomaly one quarter of the patients died of bacterial endocarditis or endarteritis and half of the patients died due

to slow or rapid cardiac decompensation. The statistics vary as to the incidence of bacterial endarteritis or endocarditis as complicating features, and they are quoted between 25 and 40 per cent and the incidence of cardiac failure between 30 and 50 per cent; so you can see from 80 to 85 per cent of all the patients who have a patent ductus arteriosus will die due to the two above-named complications. There are to date about 30 reports in the literature where the patients died of aneurysms of the ductus, pulmonary artery aneurysms or rupture of the aorta.

The only definitive treatment possible in this lesion is successful separation of the pulmonary

patients have developed bacterial endocarditis and endarteritis.

Dr. Hamilton: I notice some reports in the literature that cardiac decompensation is an indication for ligation of the ductus. Are you in accord with this?

Dr. Ehrenhaft: Yes.

Dr. Franklin: Is there any possibility that this was not a subacute endocarditis? The patient had a fulminating course. There were three types of organisms cultured, and it may have been the *Streptococcus hemolyticus* which was the offending organism. The mitral valve was not involved

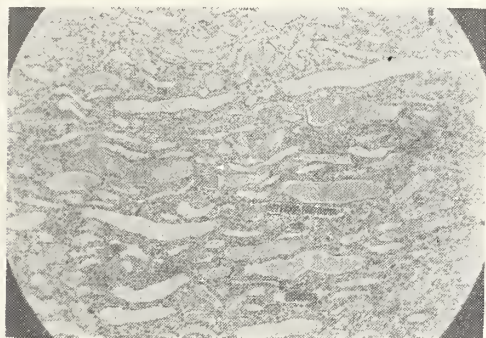


Fig. 4. Kidney: Casts in collecting tubules.

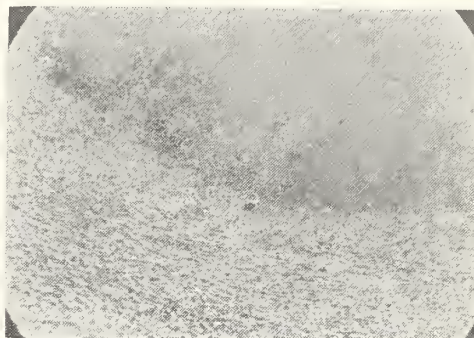


Fig. 5. Brain: Border of septic infarct of medulla.

and the systemic circulation by either ligation or transsection and ligation of the ductus. The mortality rate, if this operative procedure is performed in the young age group, preferably around the age of three or four, should be well below 5 per cent. If one does this operative procedure in the older age group, the mortality increases sharply and is quoted between 10 and 20 per cent. It is due to the extreme fibrosis and at times calcification of the ductus. If one considers the statistics where ductus ligations have been performed in cases of bacterial endarteritis, the mortality at times is quoted as 50 per cent. I would like to put in a plea that all patent ducti seen in children and the younger age group should be surgically treated early. The optimal age is between three and four years, and there is nothing gained by procrastinating on those patients.

Dr. Hamilton: Dr. Ehrenhaft, do you think there is any indication for ligation of the duct on an adult over 30 years of age?

Dr. Ehrenhaft: Yes, there is, but it is difficult.

Dr. Hamilton: By ligating these ducti, can you be sure that the individual will not develop bacterial endarteritis later?

Dr. Ehrenhaft: No. There have been some reports where endarteritis has not been present previous to ligation of the patent ductus, but those

with any rheumatic process. The site of the endocarditis was the aortic valve with a secondary spread to the patent ductus. Subacute endocarditis due to *Streptococcus viridans* usually attacks a rheumatic heart or a congenital heart lesion, which in this case was not primarily affected. Pyemic abscesses don't occur or must be extremely rare due to *Streptococcus viridans* emboli. They are relatively much more common in acute endocarditis. Finally, the lesion shown here in the aortic valve is an ulcerative one, having ulcerated through one aortic cusp and also into the patent ductus. This also is much more in keeping with an acute ulcerative endocarditis. The kidney lesions are also not incompatible with what may be found in acute endocarditis.

Dr. Stamler: The lesions were irregular, friable, verrucose vegetations, which microscopically appear as hyalin amorphous material with some organization preceding from the base of the vegetation but no acute inflammation involving the continuous valve.

Dr. Franklin: They ulcerated into the cusp, and then they ulcerated through into that fistula? That's ulcerative, isn't it?

Dr. Stamler: The material is all hyalin degenerated material rather than the ordinary necrotizing process which you have with ulceration.

SPECIAL ARTICLE

CONVOCATION COMMENTS

William Bennett Bean, M.D.

Professor and Head of the Department of
Internal Medicine, College of Medicine
State University of Iowa, Iowa City

Remarks made at the opening convocation of the Colleges of Dentistry, Medicine and Pharmacy and the School of Nursing of the State University of Iowa, September 21, 1949, Iowa City.

Fellow students and friends: As part of the program for this evening I have been given the pleasant duty of extending my warm and sincere welcome to you all on behalf of my associates, the teachers and the administrators of the several colleges in the University. This convocation ceremony at the threshold of your professional education carries not only the welcome but the customary opportunity to lavish upon you advice and cautions. The value of an introductory lecture is uncertain. I do not know of lasting benefit received from those I have been compelled to hear. I have never before inflicted one myself. To my seniors and fellow teachers what I say may appear shopworn—but the time has long since gone when it can be spoken for their edification; so my words are for those of you who are making the momentous step of beginning to learn a profession. As novices preparing your life's career by study in one of the professions, you are a chosen group, an elite. For each one of you here there are many less fortunate ones who envy you your opportunity. You are our fellow students and before long you will be our colleagues. Even with your youth some of you must become our betters if any advance is to be made in the slow evolution of your chosen fields. Your privilege in occupying this coveted position as students carries with it responsibilities. My brief discussion with you tonight will concern suggestions for meeting these responsibilities that, by gaining maturity, you may use the culture and craft you learn to bring comfort and solace to persons in distress whom your aim it will be to serve.

As students learning a profession, you will notice a sharp transition from your training up to now. Previously your success or failure has been a matter of personal or individual concern or at most has worried your parents but probably not your friends. Because the practice of professions such as you will be engaged in affects not only the health but the feelings and even the lives of others, your obligation now to learn to the ex-

tent of your ability is a measure of the nature of your future responsibility, and this is particularly true in the present disturbed state of our society.

How, then, must you as students conduct yourselves in order to receive the best benefits from our efforts in behalf of your professional training? First, let us consider the matter of aims and standards. By the mere fact that you have chosen professional careers, you have indicated that accumulating wealth is not your primary concern, since, for equivalent training and work, the acquisition of money in business regularly surpasses that to be gained in the professions and by wide margins. You have indicated motives of service to your fellow man. Let me charge you then that you make *excellence* your motto and in all relations of life be content only with that which is first rate. This must not be a vague generality but a compelling force which, determining the cast of your character, ultimately becomes part of you. No doubt you would be insulted if you were told that in matters of clothes or cars, football teams or movies, or any of the contrivances of our machine age, you could not distinguish the excellent from the second class. Quality in nonmaterial values is even more important, and this is especially so in the fields of medicine, dentistry, nursing and pharmacy, where the concern is with people.

Let us consider a few instances where a high regard for excellence will be tested. First of all in the daily use of language, the spoken and written word, if you are like most students today, somehow in your rush to acquire preprofessional technics, many of you have neglected that vital technic of clear command of your native tongue. Comprehension of ideas depends on language which, as the medium of your learning, must serve as the framework on which your special training is built. Perhaps because it has been unfashionable to aim for excellence in school, many of you have failed to attain even bare competence in expression. In contemporary American life there is generally a fear of culture as though it were a perversion of normal. You cannot do an effective job in a profession unless you sweep aside the childish notion that culture correlates with effeminacy. For those who have made some progress along the road to culture and for that larger band which now determines to make the pilgrimage, it is done best by gaining familiarity with the thoughts and words of the finest members of the human race through all the ages. You must read and become familiar with what they have left us in the way of literary treasures. Much lost ground can be made up by the habit of even brief daily reading in some extra-curricular field. This

can be done in the face of the overwhelming burden of study upon which you are about to launch only by a profound determination to attain excellence. If you achieve it you will avoid the prevailing sin of obscurity and confusion of ideas which vexes us in so many aspects of our daily existence, and you will enrich your own lives.

Next let your concern be for excellence in manners in your dealings with colleagues, teachers, friends and patients. Undergraduate students have not escaped the corroding blight of modern times and modern education, that of unkindliness and selfishness. In the protracted adolescence of modern society, a hunger for pleasure and happiness finds expression in boorishness, vulgarity and petty meanness, which is especially distressing and hazardous in professions concerned with health. It is disheartening to note man's inhumanity to man in any place, but it is particularly so where it affects the sick and miserable. All too often a doctor, a nurse, an orderly, or others caring for the sick exhibit meanness, short temper, or maybe just some trifling lack of consideration which may nullify the efforts of brilliant science and technical virtuosity. In manners the simple rule of putting yourself in another's place will indicate what should be done. Thought and consideration for others will alleviate some of the pains of neurotic preoccupation with self which prevail so widely. With emphasis on considerateness it is even possible that politeness may grow into courtesy, and courtesy into the dignity and refinement which constitute excellence in behavior.

In the selection and cultivation of your friendships remember that subtle qualities rather than superficial ones are of importance. To a surprising degree your friends influence you and mold your habits and character. In your associates be content with nothing less than the best. Avoid the flashy, the vicious and the shallow. Good company elevates whether it be in the people you associate with or in the books you read. Indifferent company is retarding and dulling. Bad company weakens and ultimately cripples.

Another admonition concerns integrity and intellectual honesty. In professions which depend on personal relationships and of course in all others there is no substitute for absolute integrity. A baneful tendency of some of your education up to now has been that as students you have lined up in a hostile and separate camp on the one side, with your teachers and instructors in another, and made sport of getting away with what you could in petty deceptions. Dishonesty corrodes. You cannot compartmentalize its sphere and be honest in all save one or a few sections. In learning a profession the substitution of another's

knowledge in default of your own is a malignant deceit which may destroy your usefulness because it later endangers those coming to you for help and comfort. In the various branches of the medical and health professions those infected with dishonesty may survive for a time, but sooner or later the blight will damage others and so destroy them.

Among the many problems which concern us, your fellow students who by an accident of chronology happen to be teaching, is the age old problem of the proper balance between education in facts and education in methods, between technics and knowledge, between ways and wisdom. Contrary to what you may suppose, scientific facts are not final and eternal but change with our growing understanding. They are knotty difficult things, and all of us at certain stages must learn a great many of them by sheer force of memory before we can integrate them into the broad pattern of what we are learning. You must never be satisfied with the mere accumulation of facts but rather try to get an understanding of their relations one to another. Be concerned not only in the acquisition of a storehouse of facts, a knowledge of technics, drugs and doses, but in an appreciation of their true significance as they relate to the various branches of professional activity in which you will be engaged. Unless you achieve excellence not only in knowledge but in the art and craft of a profession, an integration and synthesizing of your facts, it becomes a mere business. The art of what you practice has to do with personal relations, and success in such matters depends on high standards of excellence being kept in view at all times.

How are such standards to be sustained? To recall the aphorism ascribed to Hippocrates, "Life is short and art is long, opportunity is brief, experience dubious and judgment difficult." The time is past where spoon feeding can nourish your minds and give the needed sturdiness to the fabric of intellect and character. There is no magic vitamin, no capsule of intellectual chemotherapy, which will serve in the place of the one medicine which gives excellence—hard work. Dr. William Osler's master word—work he says is "a little word but fraught with momentous sequences if you can but write it on the tablets of your hearts and bind it upon your foreheads." And how can work enable you to reach your goals? Most readily by cultivating a system, by concentrating and attending. If ever there was a time of scattered attention this is it. Suspended by vague ambitions, prodded by anxiety and baffled by frustration, we seem to have lost the capacity for sharp and exclusive focus of the attention. Without

attention there can be no system, and system withers without work. Remember this, to reach the narrow end of the distribution curve which marks excellence, you must have an abiding conviction of the need for hard work and the value of system in your work.

In opening this discussion with you, I called you fellow students. This was no accident of flattery to make you feel more at home. It is my deep belief that if those who assay to teach the professions are not perennial students they can ill do the job for which they assume responsibility. May I suggest to you that undergraduate student participation in the practice and philosophy of teaching in a very real sense is an obligation, especially of those of you who will become the leaders of your group by good luck, good heredity, industry and the achievement of excellence. In a civilization such as ours in which population is aging, a constant re-energization in attitudes and methods of professional training must come from the younger members and particularly from those who are now undergraduate students. You will find, I think, that happiness comes not from unbridled or undisciplined irresponsibility but from constructive contributions to the problems of your own education. One of the serious tasks we all face today is the necessity for fostering the thoughtful participation of youth in responsible pursuits in all fields of endeavor at the beginning of your career so that when you reach maturity you can act effectively and assume leadership. As teachers we may forget that the mature may be stultified by the nonstimulating routine of graduate schools, and the relative insecurity of the sluggish and those off-balance may be made disastrously worse. The problem of providing discipline without the sacrifice of imagination and the stimulus of youthful ideas is an unsolved challenge in contemporary education and is exemplified particularly in the professional schools.

I will summarize briefly these admonitions. Your presence here is token of your willingness to assume responsibilities. In order to do this you must set for yourselves the very highest standards of excellence and in everything be content with nothing which is second rate. This concerns your use of the language, your manners in dealing with your contemporaries, the cultivation of excellence in friendship, the achievement of an impeccable standard of intellectual and professional honesty, and recognition that serious and hard work must be done by you individually to achieve the necessary facts and their correlation which will permit you to obtain not only competence but distinction in your profession. To quote from a convocation address by a former

teacher and colleague, Dr. Charles Aring, "There can be little question that, if you strive to synthesize knowledge from information, add to your store of culture, nurture good sense, manners, humor and good faith, unmask appearances, to be willing and able to see things as they are and develop the power of attention, you will be more effective additions to the medical field than many of your teachers, and happiness may be left to care for itself."

In conclusion, make excellence your motto and hard systematic work your theme as students, and you will succeed in learning your profession. When you reach the next milestone in your career at graduation you will understand the necessity of remaining students so long as you live and practice in these ancient and honorable professions. Again let me tell you that we welcome you. We look forward with enthusiasm to the stimulus you bring and the challenge that we can by hard work together achieve high standards of excellence in a life whose riches will be the happiness and contentment we bring to others and thus to ourselves.

Acknowledgment: These remarks are necessarily derived—a distillate from teachers, associates and books. It would be ungracious not to mention among those in whose debt I stand, my parents and Osler, Trotter, Aring, Dorst, Gregg, and Soley, together with a host of others.

SPEAKERS BUREAU RADIO SCHEDULE

WSUI—Tuesdays at 11:30 a. m.

WOI—Thursdays at 11:15 a. m.

Jan. 3-5	"Colitis"	W. David Haufe, M.D., Bloomfield
Jan. 10-12	"Prevention of Dental Cavities"	W. Patric Reilly, D.D.S., Des Moines
Jan. 17-19	"The Care of Teeth in Children"	Joseph A. Cortese, D.D.S., Des Moines
Jan. 24-26	"Significance of Atomic Energy in Medicine"	Raymond W. Hammer, M.D., Sioux City
Jan. 31-	"Animal Reservoirs of Human Disease"	
Feb. 2		E. A. Benbrook, V.D.M., Ames

American Board of Obstetrics and Gynecology has not made nor is it contemplating any changes in its residency training requirements, despite rumors of an increase in training years. Copies of the Bulletin outlining the eligibility requirements in detail are available to hospital administrators and candidates upon application to Paul Titus, M.D., Secretary, 1015 Highland Building, Pittsburgh 6, Pennsylvania.

STATE DEPARTMENT OF HEALTH

Walter L. Lanning

PUBLIC HEALTH NURSING IN THE MATERNAL AND CHILD HEALTH PROGRAM

Maternal and child health are inseparable; therefore they form a single program for the benefit of both.

To be born safely, to have a healthy mother to guard and protect one during infancy and childhood and to grow up in a secure home environment are considered basic rights of every individual. The functions of public health nurses to assist in securing these rights fall largely within three categories: service to mothers and infants, to the preschool age group and in the school health program.

In service given to mothers and infants, if the mother is not under such supervision, the nurse urges early and continuous medical and dental care. She discusses the value of adequate nutrition and other aspects of the hygiene of pregnancy, such as need for rest, recreation and preparation for the baby and his care. As most babies are now born in hospitals, the nursing services have changed to adapt to the trends in maternal and child care. Early ambulation and earlier discharge from hospitals have had an influence on postpartum nursing care. The short hospitalization period provides for little opportunity within the hospital for a very important function of good maternity nursing—teaching the mother to care for herself and the baby; therefore an opportune time for the public health nurse to assist the family in carrying out the physician's instructions regarding the care of mother and baby is as early as possible after the mother returns from the hospital.

Infant nursing service consists of giving care and guidance through the first year of life. Regular medical supervision, prevention of communicable diseases and instruction to parents relative to meeting the needs for satisfactory physical and emotional growth are the objectives of this service.

Service to the preschool age group is largely educational and is directed to the need for medical and dental supervision, prevention of communicable disease and resultant complications and

an awareness on the part of parents of the emotional and physical needs. Service to this age group might well receive more attention because of their susceptibility to communicable diseases and the physical and psychologic problems that present themselves in these formative years of the child's life.

In the school health program the public health nurse cooperates with other school personnel to help promote a healthful and safe environment. She assists in the control and prevention of communicable diseases, in securing a recognition of health needs, in following through on prescribed treatments or recommendations and in the understanding on the part of teachers and parents of the developmental changes of growth.

Considerable progress has been made in reducing maternal and infant mortality rates; however, the death rate of infants under one month of age has not declined proportionately. In Iowa in 1948, 36.3 per cent of infants who died under one year of age died during the first day of life, 65.5 per cent died during the first week and 75.6 per cent died during the first month. Premature birth ranks first as the cause of infant deaths.

Public health nurses have had a significant role in developing maternal and child health programs, as service to mothers and children is one of their most fundamental and far-reaching functions. They are challenged to help with the unmet needs in this service.

RABIES IN ANIMALS

January through November, 1949

County	Number	Animals
Benton	5	3 cows, 1 horse, 1 calf
Black Hawk	4	2 skunks, 1 cow, 1 dog
Boone	4	2 skunks; 2 dogs
Buena Vista	2	1 pig, 1 skunk
Calhoun	1	1 cow
Carroll	1	1 dog
Cass	1	1 dog
Cedar	3	2 cows, 1 skunk
Clay	1	1 skunk
Clayton	1	1 dog
Clinton	2	2 dogs
Crawford	2	2 cows
Dallas	9	6 dogs, 2 cats, 1 calf
Davis	3	1 squirrel, 2 skunks
Decatur	3	1 dog, 2 skunks
Delaware	1	1 cow
Dickinson	6	1 horse, 4 skunks, 1 cow
Emmett	2	1 dog, 1 skunk
Floyd	2	2 cows
Franklin	1	1 cow
Fremont	1	1 fox

(Continued on next page)

Greene	4	3 dogs, 1 cat
Guthrie	3	1 cow, 1 cat, 1 sheep
Hamilton	1	1 skunk
Hancock	1	1 bovine head
Hardin	1	1 cat
Humboldt	2	1 cat, 1 skunk
Iowa	5	1 cat, 1 horse, 2 skunks, 1 steer
Jackson	2	1 dog, 1 fox
Jasper	1	1 pig
Johnson	9	6 skunks, 2 dogs, 1 calf
Jones	6	4 skunks, 2 cows
Lee	1	1 hog
Linn	2	1 skunk, 1 cow
Madison	1	1 skunk
Mahaska	1	1 cow
Marion	1	1 dog
Marshall	6	2 cows, 1 steer, 3 cats
Montgomery	2	2 cows
Muscatine	4	2 cats, 1 skunk, 1 fox
O'Brien	1	1 skunk
Palo Alto	2	1 cow, 1 skunk
Pocahontas	4	2 skunks, 1 cow, 1 calf
Polk	61	55 dogs, 3 cats, 2 bulls, 1 raccoon
Pottawattamie	4	1 cat, 1 raccoon, 2 dogs
Poweshiek	6	1 cow, 1 skunk, 2 dogs, 2 cats
Scott	1	1 squirrel
Sioux	1	1 badger (Orange City)
Story	5	1 cat, 2 cows, 1 steer, 1 groundhog
Tama	4	2 skunks, 1 calf, 1 dog
Taylor	1	1 skunk
Union	1	1 cat
Van Buren	2	1 skunk, 1 dog
Warren	7	2 raccoons, 1 cat, 1 cow, 1 dog, 1 skunk, 1 fox
Washington	1	1 skunk
Webster	14	2 cows, 6 dogs, 1 pig, 1 groundhog, 2 skunks, 2 cats
Wright	12	3 cats, 1 cow, 2 dogs, 1 squirrel, 1 civit cat, 2 pigs, 1 bovine head, 1 skunk

Total to date
(Nov. 26, 1949).....235

Cases by Months

January	13
February	27
March	25
April	39
May	37
June	24
July	19
August	11
September	19
October	14
November	7
Total	235

Distribution by Animals

Dogs	93
Cattle	45
Skunks	48
Cats	26
Pigs	5
Raccoons	4
Horses	3
Squirrels	3
Foxes	4
Ground hogs	2
Badgers	1
Sheep	1

Total, 57 counties reporting cases.....235

Percentage Distribution of 1,500 Positive Animals 1916 to 1948, Inclusive

Month	Per Cent of Total
January	9.0
February	9.0
March	7.5
April	9.5
May	9.5
June	11.0
July	7.0
August	7.5
September	7.0
October	7.0
November	7.5
December	8.5

Percentage Distribution of 235 Positive Animals January 1 Through November 1949

Month	Per Cent of Total
January	5.5
February	11.5
March	10.6
April	16.6
May	15.7
June	10.2
July	8.1
August	4.7
September	8.1
October	5.9
November	2.9

MORBIDITY REPORT

Disease	Nov. '49	Oct. '49	Nov. '48	Most Cases Reported From:
Diphtheria	1	1	6	Poweshiek
Scarlet Fever	42	40	89	Polk, Story, Woodbury
Typhoid Fever	2	0	1	Polk, Woodbury
Paratyphoid	1	0	0	Iowa
Smallpox	0	0	0	
Measles	135	46	73	Black Hawk, Calhoun, Polk, Sac
Whooping Cough	12	9	21	Des Moines, Fremont, Linn, Polk
Brucellosis	16	29	19	Howard, 1 case each in other counties
Chickenpox	97	52	408	Black Hawk, Dubuque, Sac
German Measles	1	1	0	Johnson, Story
Influenza	0	0	0	
Mening. Meningitis	7	3	0	Scattered
Mumps	87	51	215	Story, Woodbury, Worth
Pneumonia	3	1	12	Polk (2), Black Hawk
Poliomyelitis	132	156	134	Black Hawk, Lee, Johnson, Polk
Rabies in Animals	7	14	—	Marshall 2, other counties 1
Tuberculosis	47	92	60	For the state
Gonorrhea	81	98	75	For the state
Syphilis	158	186	112	For the state

President's Page

The threat of federal socialized medicine has precipitated the medical profession into the field of politics and has increased enormously the problems and activities of our Society. I need not dwell on this. It is now quite evident that the Democratic party will use the Congressional elections as a means of going all out for the so-called "Welfare State," and we are further informed that they intend to use "Compulsory Health Insurance" as the central theme of the campaign. Make no mistake, "Compulsory Health Insurance" is a part and parcel of the so-called "Welfare State," and it is only a few steps from the "Welfare State" to the "Social State." Therefore, the next year is going to require more work for us than any of the past ones. The time has now arrived when we must bring about some reorganization of our Society administration, in order that we may meet these new problems with greater efficiency.

At this time I wish to call your attention to two things that I think should be accomplished. First, there should be a reactivation of the Council, and, second, I believe that it is going to be necessary for the House of Delegates to authorize the appointment of a full-time business manager.

During the strenuous and confused war years the Council became quite inactive, and its duties and responsibilities were gradually taken over by the Board of Trustees and some of the appointed committees of the Society. The Council should be an important and active part of our set-up. It, along with the officers of the Society, makes up the Executive Council, which has the same authority as the House of Delegates in the interim between sessions. Its reactivation cannot

be brought about overnight, and the process is going to be a slow and tedious one. The starting point should be the careful election of the members of the Council, and by that I mean that the delegates in picking men for these jobs should be sure that those individuals are fitted for the duties and also are willing to spend the necessary time and effort. I see no other way of bringing this organization back into effective operation. As I said, this is going to take time and patience, but in the end it must be accomplished.

What we definitely need now is some means or some force within our organization that will coordinate our many and varied activities, and also that will give continuity to our long-time plans. In a way, this is the job that your president should do, but your president is changed every year and, naturally, he is in no position to effectively bring all these activities into harmony, and since his term of office is short he has no opportunity to bring continuity. I, therefore, propose that the members of the Society give serious thought to the employment of a man who will act as our business manager. It should be a full-time job with a salary sufficient to obtain the services of a high class individual. Preferably he should be a physician who knows the profession and its many problems, and who is well known and respected by the men of the state. He should be appointed on a contract for a long enough period to give him an opportunity to establish continuity of our policy.

This is a matter that, of course, will have to come before the House of Delegates, but I am calling it to your attention early enough so that you can be thinking about it. Your comments would be appreciated.

Nathaniel G. Alcock, M. D.

President, Iowa State Medical Society

The JOURNAL of the Iowa State Medical Society

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1950 Arrives

For years it has been the pleasant custom for the JOURNAL to pause at this time of the year to extend to its readers the best wishes of the holiday season and felicitations for the year ahead.

In reviewing the previous year, it frequently appears that the medical profession is beset with problems which annually become more serious. Certainly, this situation obtains at this time. According to indications 1950 will be memorable for an increase of medical society dues at the county, state and national level. While such action has been responsible for a great deal of comment in the press, it is in accord with the democratic way of life that the medical profession should be granted the opportunity of educating the public regarding their own feeling in national matters, more particularly with regard to a national compulsory health bill, and the inevitable political control of medicine which would ensue. During 1949 the government administration has taken definite steps against both state medical societies and the American Medical Association headquarters, which would appear as threatening gestures explained only as investigations in order to determine whether there has been any violation of anti-trust laws. Under no circumstances may any physician question that vigorous measures on our part must continue if the existing practice of medicine shall remain unchanged.

At the approaching annual state meeting the Society will mark its anniversary of 100 years of medicine in Iowa. This event is to be signalized by the publication of an historical volume to be distributed to each member at the time of the annual meeting.

Construction is now underway of numerous county hospitals and sizable additions to already existing hospitals, which will add many beds available for patients. It is anticipated that the already scarce supply of nurses will be further strained to staff these new additions, and it is hoped that this matter may be worked out advantageously.

During the coming year it is even more essential than ever that each member of the State Society actively do all in his power to promote unity in the medical profession, not only in internal affairs but in our public relations as well. Each physician enjoys an unequalled opportunity in this regard if he will only take the time to enlighten his own patients as to the objectives which are sought in order that better medical care will be available to every individual. This unity of purpose is essential, and the cooperation of every physician is necessary.

The American Medical Association Votes Membership Dues

For one hundred three years the American Medical Association has existed without the payment of dues from its members, probably the only organization of its kind to do so. It is difficult, if not impossible, to name any type of organization, whether social, fraternal, scientific or educational, which does not rely upon dues for its financing. The American Medical Association, on the other hand, has depended upon its *Journal* to support its many activities.

Most physicians do not know that the other publications of the American Medical Association (*Hygieia* and the various specialty journals) are usually published at a loss. Their publication is continued because of their scientific and educational value to the physicians of the country.

The various councils and bureaus of the American Medical Association are supported by Association funds. No manufacturer pays anything to have his product examined for approval. All of this work in the public interest is done at Association expense.

The *Journal of the American Medical Association* has two main sources of income—advertising and subscriptions. The cost of the paper alone exceeded the income from subscriptions in 1947. Labor costs have risen greatly in all fields, along with material costs, and since there is a limit to the advertising possible to obtain and publish, it naturally follows that the Association found itself with less and less funds with which to support its activities.

Last year, for the first time in its history, its House of Delegates voted an assessment of \$25

per member. This was a voluntary method of raising funds to carry on the cost of a contemplated educational campaign. About 80 per cent of the members paid the assessment and, contrary to what some people would have you believe, no action of any sort was instituted against those who did not pay.

In the future, however, active members of the American Medical Association will pay annual dues, the amount to be determined each year by the House of Delegates in accord with the need. In 1950 they will be \$25.

The position of life members and physicians for whom dues are waived is still in doubt. The feeling seemed to be that the Board of Trustees of the American Medical Association will be guided by the state societies in remitting dues for certain classes of physicians. A physician who does not pay will become delinquent after a year and will not be carried as a member. The same is true in any other organization.

It is regrettable that this matter has received such bad publicity in the newspapers all over the country. Whitaker and Baxter have furnished figures of dues for some varied groups, and they are reprinted here for your information. These are figures for dues only, not assessments for special activities.

Teamsters Union local:

Initiation fee	\$100.00
Annual dues	75.00
Architects	45.00
American National Retail Jewelers..	150.00
Chicago Newspaper Guild, on earnings of \$100 a week.....	60.00
Insurance Men, Typical Groups.....	50.00
Purchasing Agents	35.00
Motion Picture Operators.....	42.00

Doctors in Iowa may be asked about the payment of dues to the American Medical Association by patients and friends who have obtained an unfavorable impression of it from the press stories. It is hoped that they will take the time and effort to explain the true situation and correct what seems to be a widespread misunderstanding of the whole matter.

Channelizing Our Efforts

It is probably inevitable that many different persons and organizations should try to benefit from the educational campaign inaugurated a year ago by the American Medical Association. Undoubtedly many public relations firms hoped they might be selected, and many public relations experts felt they were the logical person to direct the program. Not being so selected,

these firms and individuals have approached individual medical societies and doctors with their own plans for accomplishing the objective.

It may be true, as these people say, that we should utilize as many methods of approach as possible. It is also true, however, as it has always been, that concentration of effort usually accomplishes more in a shorter space of time.

The central office has received inquiries from doctors about various organizations which have approached them for financial support. It has been besieged by individuals having poster schemes, sticker schemes and the like. It has appeared to your officers that we are committed to support of the program undertaken by the American Medical Association. Our delegates have approved it at each meeting of the House of Delegates; our members have supported it by payment of the assessment and will undoubtedly continue by payment of the \$25 dues for 1950.

If, in addition, you as a doctor wish to utilize other avenues, you are free to do so. We wish to mention, though, the matter of getting your money's worth. One set of stickers has been offered to the medical profession at \$25 a thousand. Those prepared by the American Medical Association cost eight cents a thousand, and the ones being prepared for next year are to contain more information and to cost even less.

We believe we will get further and obtain more for our money if we concentrate our attention and efforts to the campaign conducted by our own medical profession.

Dr. Fishbein Retires

After an association of 37 years with the *Journal of the American Medical Association*, Dr. Morris Fishbein has now retired. His departure from the Association headquarters was accompanied by mixed emotions. This human catalyst accomplished much for the good of the profession during his period of service and, regardless of what his severest critics may state, deserves his just due.

Dr. Fishbein continually waged unmitigated warfare against all forms of medical quackery. His relentless attacks upon substandard medical schools made it possible to establish professional requirements now accepted by all reputable schools of medicine. His position as editor of the *AMA Journal* matured his unequalled familiarity with the many facets of the Association's business. His concupiscence was outdistanced by no other officer of the Association. His publications, his writing in the *Journal*, and his public addresses did much to advance the medical profession among its own members and in public standing.

Contact Lens

Though considerable progress in the manufacture and fitting of contact lenses has been made during the past few years, the public has been misled by unwarranted claims of sensational advertising, as the whole subject of contact lenses is still in a research period. In general, this is the conclusion of the American Committee on Optics and Visual Physiology, which has investigated the situation.

In most cases contact lenses will not take the place of ordinary eye glasses because of the limited time that most patients can tolerate wearing them, the blurring of vision which occurs after a few hours, the expense and the length of time required for their fitting. Except for pathologic or occupational reasons, patients should be discouraged in attempting to wear them. Most persons seek them for cosmetic reasons, but physicians have found that these patients are much less likely to tolerate the minor discomfort and will often discard them because of dissatisfaction. Athletes have found them far superior to glasses for obvious reasons. Practically all ophthalmologists agree that the patients who benefited the most were those with keratoconus. Others reported success with patients having monocular aphakia, younger patients following cataract operations and those with high astigmatism and aniridia.

The Committee recommends that the prescribing and fitting of contact lenses by persons not properly licensed under the law should be prohibited and that medical opinion should always be secured before they are prescribed. Ophthalmologists should establish standards for approving the ability of technicians to fit the lenses.

Research should be initiated toward a solution of the unsolved problems concerning contact lenses. Ophthalmologists should themselves learn more about them at association conventions or by the establishment of contact lens centers.

The public should be warned against those who advertise the superiority of their services or of any particular type of contact lenses and be informed of the truth about contact lenses, their uses and disadvantages. The public should be reminded that competent professional practitioners do not resort to commercial advertising. The ethical practice of medicine and high professional standards do not mix with self aggrandizement or advertising in any form.

Help your central office to maintain an accurate mailing list. Send your change of address promptly to the Journal, 505 Bankers Trust Bldg., Des Moines 9, Iowa.

Taxation

According to available figures,* the Federal government during 1948 was taking 74 per cent of the total taxes collected, leaving only 26 per cent for state and local governments. Of the more than 40 billion dollars collected by the Federal government in 1948, five and one-half billions were returned to the states. Many governors have demanded a reapportionment of taxes, leaving state and local governments a fairer share of taxes, so local obligations can be performed locally, free of government control.

Iowa paid \$446,799,961.00 tax to the Federal government, of which \$98,776,448.00 was returned to the state or 22 per cent. Percentages of taxes returned in other states range from 3 per cent in Delaware to 96 per cent in Mississippi.

These figures are particularly interesting at this time because President Truman has just announced that he is sending Federal Security Administrator Oscar Ewing to study health insurance programs in England, Ireland, Sweden, Switzerland, Italy and Israel in that order. Mr. Ewing will be accompanied on the trip by Dr. W. Palmer Dearing, Deputy Surgeon General of the Public Health Service; Dr. David E. Price, Chief of the Research Grants and Fellowships, National Institutes of Health, and Dr. Earl McGrath, Commissioner of Education. The President expects to press his health insurance program in the next session of Congress and has asked Mr. Ewing to take plenty of time studying the plans of the several governments, especially that of Great Britain, in order that he may be better able to support the insurance bill from his knowledge of the experiences of other countries. The President also has announced that he will resubmit to Congress proposals for a new Department of Welfare, which will include the activities now embraced under the Federal Security Agency.

Should President Truman's health insurance program be enacted, no one can accurately predict to what astronomical heights taxation may rise in the light of Great Britain's experience with their health plan.

Report of the Meeting of the House of Delegates of the American Medical Association

The House of Delegates of the American Medical Association, meeting in conjunction with the clinical meeting of the Association in Washington, D. C., was called to order by the speaker, Dr. F. F. Borzell of Philadelphia, at 10:00 a. m., Tuesday morning, December 6, 1949. First matter of business was the general practitioner's

*Bull. 31, Washington Office, American Medical Association.

award, which was made to Dr. Andrew Hall of Illinois.

Dr. Borzell in his address said he would be glad if the meeting could be held in a spirit of peace, devoted to the advancement of scientific medicine, but existing conditions made that impossible. He mentioned the FBI investigation of some 22 medical societies and asked the group to weigh all its pronouncements lest it inadvertently fall afoul of the law. He urged that members of the Association attend meetings of the House regardless of whether they are delegates, so that they may sense the spirit and method of transacting business affecting the medical profession. He asked that there be no conflicting meetings at times set for reference committee hearings and stressed that attendance at these hearings was most important. Since sickness insurance and medical service bulk so large in medical affairs today, he asked the permission of the House to make a permanent reference committee to handle this subject.

Dr. T. C. Routley, secretary of the Canadian Medical Association, brought greetings from Canada. Dr. Irons discussed the progress of the educational campaign, ending his talk with the statement that we cannot delegate individual responsibility to any but ourselves. The patient-physician relationship is the best contact, and he urged we stop talking to ourselves and start talking to citizens.

Dr. Lull's report gave figures on membership, information about action taken on mandates by the House of Delegates, the Annual Conference of Secretaries and Editors, and field activity.

The report of the Board of Trustees, as published in the handbook, covered the activities of the many departments of the Association under the jurisdiction of the board. Dr. Bauer, chairman, mentioned the necessity for greater income through a system of permanent dues, discussed legislation and the attitude of the Association regarding it, advised that certain actions taken at Atlantic City should be rescinded, urged that all state societies form a grievance committee, announced the resignation of Dr. Morris Fishbein and the elevation of Dr. Austin Smith to editor, and the fact that the name *Hygeia* had been changed. He also explained the new Interassociation Committee on Health, which has been approved by the Board of Trustees (similar to our Iowa Interprofessional Association). This group shall study and discuss various phases of health care and perform such functions as shall contribute to the objectives. Three persons from each group, persons who have authority, shall constitute the committee; officers shall be rotated among the groups; and the committee may origi-

nate or receive actions. Discussing the World Health Association, he said 46 nations are now members and that all feeling of distrust has vanished. The Code of Medical Ethics has been adopted, based on the Declaration of Geneva.

Dr. Henderson reported for the Coordinating Committee; he was followed by the chairmen of the various Councils who reported on their activities.

At the Thursday morning session, states which have established grievance committees were commended, and all other states were urged to set up similar committees.

A motion to compensate the trustees and other officers of the Association for time spent on official business was discussed with the trustees who felt it was not necessary. The final decision, however, was to pay the actual expenses of such officers as nearly as possible.

Formation of a committee of nonmedical persons to help in the campaign for freedom was approved; the formation of more general practice residencies was encouraged; and support for higher salaries for public health officers was voted.

Falling under the report of the Council on Medical Service, the committee commended the formation of the seven correlating committees within the Council, deeming them an important forward step. It approved of the statement that physicians should assert more leadership in health councils; it agreed that in the placement of physicians the community also has a certain responsibility for equipment, office and residence; it urged that all counties set up some method of dealing with emergency medical calls; and it agreed with the plan for educating people more and more about voluntary health plans, and with the Council's proposal to make a study of indigent medical care. Also approved were recommendations that approval of consumer-sponsored medical care plans should take into consideration *past* rather than contemplated performance, and that both county and state societies should be the groups from whom approval should be sought.

The matter of insurance examination fees did not receive specific action. It was pointed out that some companies are voluntarily raising their fee, and the secretary was instructed to keep the state societies advised of other changes.

Medical care of veterans received a great deal of dissolution, but the whole problem was referred to a committee for further study and a report at the June meeting in 1950. This committee is to consist of five members of the House of Delegates appointed by the Speaker.

The written report of the Council on National Emergency Medical Service was approved and

commended, and it was urged that the Council continue and expand its planning for civilian protection.

Probably the most important action was on the matter of dues. The House of Delegates voted unanimously to amend the by-laws to make possible annual dues in the American Medical Association. The plan adopted places a limit of \$25 upon the amount which may be asked; it gives the Board of Trustees the responsibility for determining what the amount shall be for the ensuing year, but this must be approved by the House of Delegates (the same as our Iowa method); and it provides for a warning to delinquents by the secretary of the American Medical Association so that they may reinstate themselves by the payment of dues within 30 days from receipt of notice. Collection of the dues is to be made through the state and county societies at the same time their dues are collected. The question of what to do about life members was thoroughly discussed, but no specific stand was taken since many states have different methods of handling life memberships. The chairman of the Board of Trustees assured the House that the Board would be most sympathetic to recommendations from the state societies about life members. The House voted unanimously that dues for 1950 should be \$25.

Since the actions of the House on certain bills is of great interest to all physicians as well as the citizens of the country, a verbatim copy of these follows:

RESOLUTION ON SENATE BILL 1411

(Presented to House of Delegates, American Medical Association, at Washington, D. C., December 6, 1949)

Whereas, The House of Delegates of the American Medical Association at the last session adopted a resolution opposing Senate Bill 411, known as the School Health Services Act; therefore be it

Resolved, That the House of Delegates now in session reaffirm its opposition to Senate Bill 1411 and instruct the Board of Trustees to implement the opposition to this legislation by appropriate information to the component societies.

* * *

ACTION OF HOUSE OF DELEGATES ON RESOLUTION ON SENATE BILL 1411

The House of Delegates took the following action with reference to S. 1411:

We recommend that this bill in its present form be opposed. On page 6 of the printed bill, Section 6 (a), (1) there are three provisions, A, B and C. A provides for periodic medical and dental examination of school children; B provides that, where indicated, treatment shall be provided "whenever the parents of such children are unable to provide treatment," and these sections are acceptable. Section

C, which permits schools to provide treatment for *all* school children, is an unwise provision and makes it necessary to oppose S. 1411.

* * *

STATEMENT ADOPTED BY BOARD OF TRUSTEES OF AMERICAN MEDICAL ASSOCIATION RE H. R. 6000

In the past, the American Medical Association has made it a practice to take a stand on legislation involving medical care and the health of the American people. While H. R. 6000 is primarily a social welfare proposal, it does contain one provision having serious medical implications, namely, that section on compulsory contributory permanent and total disability insurance.

The major benefits included in the present social security system—old age and unemployment—are adaptable to mass or objective administration from an office remote from the individual. This is not true of total and permanent disability benefits. Age is a condition over which the individual is unable to exercise any control, and unemployment is an occurrence over which the individual may have little or no control. Qualification for the benefits is categorical and not difficult to determine. In contrast, total and permanent disability is often a condition over which the individual who is disabled and his physician may exercise control.

This subjective control which may be exercised by the individual multiplies the opportunity for malingering and actually takes the program out of the insurance category. We must always oppose any program which places a brake on the incentive of the sick and disabled to desire recovery.

To initiate a federal disability program would represent another step toward wholesale nationalization of medical care and the socialization of the practice of medicine. The program as now proposed would not accomplish the entire nationalization of medical care but the inevitable expansion and liberalization of the program which would surely follow makes probable its eventual accomplishment. The steps in liberalization are not hard to visualize—such as payment of benefits to dependents of disabled covered persons, removal of the time lag of six months and substitution of temporary disability benefits, then eventually full cash sickness and disability provisions. We would then have nothing less than total national compulsory sickness program.

During the hearings on this bill persons fully qualified in the field of economics and insurance and students of political science warned against the high additional percentage of national income to be committed to social programs by the enactment of extensions as proposed by H. R. 6000—of this danger, we are aware.

The American Medical Association recognized the need for assistance to the disabled needy and feels that this aid should always be administered on a local level. Financial assistance to the locality should only be advanced from state or federal sources when a need can be clearly shown.

FEDERAL AID TO MEDICAL EDUCATION

*A Joint Statement**by**The Board of Trustees**and the**Council on Medical Education and Hospitals*
*of the**American Medical Association**on**Senate Bills S. 1453 and H. R. 5940*

The following statement was prepared jointly by the Board of Trustees and the Council on Medical Education and Hospitals of the American Medical Association. The statement was adopted by the House of Delegates of the American Medical Association at the Clinical Session in Washington, D. C., December 8, 1949.

The Twelfth Point of the American Medical Association's program for the advancement of medicine and public health supports financial aid to medical education "with funds free from political control and regulation of the medical and allied professional schools." This point was elaborated by the Board of Trustees after consultation with the American Medical Association's Council on Medical Education and Hospitals as follows:

"Some medical schools are finding it difficult to secure sufficient funds to maintain their standards of training. The American Medical Association would prefer to see medical schools receive the support they require from private philanthropy or local public funds. Unless and until such support is provided, it may be necessary for some medical schools to accept financial aid from the federal government. Such aid, however, must carry with it the assurance of freedom from political control and regulation.

"To preserve the freedom and independence of the medical schools, it is important that the responsibility for determining which schools may qualify for federal aid should reside in the states. This can be satisfactorily accomplished if the legislation provides that any medical school shall be eligible for financial aid if three-fourths of the states through their medical licensing boards judge the schools to be conducting an educational program of sufficiently high quality to warrant the admission of its graduates to their state examinations for medical licensure.

"To encourage continued local support of medical education from public and private funds, the formula for allocating federal aid should provide only a limited portion of a school's total budget.

"Since medical schools are already increasing enrollments as rapidly as they can expand their facilities, the provision of a relatively large financial premium which might induce certain schools to enroll more students than they could properly accommodate should be avoided.

"The formulas for the allocation of all funds should be simple in principle and written into the law. The responsibility and authority of the officials administering the program should be limited to

an audit to determine that the funds are employed for the general purposes for which they were granted.

"Any federal scholarship program should leave the medical schools entirely free in the selection of their students and should avoid the regimentation of the future careers of the recipients."

Following the favorable report by the Senate Committee on Labor and Public Welfare of an amended version of S. 1453, the Council on Medical Education and Hospitals submitted the following statement to the Board of Trustees:

"On August 3, 1949, Senator Pepper on behalf of the Committee on Labor and Public Welfare reported favorably to the Senate an amended version of S. 1453, the bill which he had introduced in March, 1949, to provide federal aid for medical education. The amended bill was prepared following public hearings by the Subcommittee on Health on all bills concerned with federal aid to medical education and following a two day conference with the professional staff of the Subcommittee in which representatives of the American Medical Association and the medical schools participated. The bill in its present version carries the unanimous endorsement of the full Senate Committee on Labor and Public Welfare.

"The bill in its present form represents in general a distinct improvement over all earlier measures. The following changes have been made which represent concessions of varying degrees to the requests made by the American Medical Association representatives at the hearings and the conferences referred to above:

"1. The payments to the medical schools have been changed from \$300 for each student enrolled up to a school's average past enrollment and \$1,700 for each student enrolled in excess of a school's average past enrollment to \$500 and \$1,000 respectively, and a limitation of 30 per cent of the average past enrollment has been set for the number of students for which the higher rate of \$1,000 will be paid.

"2. The total payment that the Federal government may make to any school has been reduced from 50 per cent of the school's budget to 40 per cent.

"3. The provision for federal scholarships for medical students has been rewritten so that no scholarships will be provided so long as the medical schools are able to fill their enrollments with students who do not need federal scholarship aid.

"4. The constitution and powers of the National Council on Education for Health Professions have been improved so as to provide a more effective check on the Surgeon General's powers in administering the act.

"5. The provisions of the act are effective only for a five-year period at the end of which time the Congress will have to determine whether to continue such aid and, if so, in what form.

"Despite these improvements the bill contains several provisions which are objectionable to varying degrees:

"The \$1,000 payable for each additional medical student will be paid to new medical schools for all

students. This provision unduly and unfairly favors new schools over established schools in the matter of federal aid. Our representatives had recommended that the same limitation on the number of students for whom the higher payment of \$1,000 would be made, namely 30 per cent of the enrollment, be applied to new schools as well as to old schools.

"The bill provides \$5,000,000 annually for grants for construction to assist in the establishment of new schools in the health professions and in the improvement and expansion of existing facilities, these grants to be made by the Surgeon General in the order of the estimated importance of the requests received. Our representatives felt that no grants for construction should be made until the needs of all the medical schools had been surveyed and a balanced, long range program developed. They also felt that vesting in the Surgeon General full authority to award such grants opened the door for political pressure and interference. This last objection has been partially met by providing that the Surgeon General should obtain the advice and recommendations of the National Council on Education for Health Professions before awarding such grants, but there is nothing in the bill that would prevent him from disregarding the advice and recommendations of the Council.

"Mention should be made of the fact that the bill gives the National Council on Education for Health Professions rather sweeping authority to investigate the medical schools and to determine their capacity to maintain and expand student enrollments, to establish a uniform method of calculating costs of instruction and to determine the extent to which equal opportunity to gain an education in the health professions is afforded all properly qualified students.

"We recognize that the National Council must be in a position to obtain information necessary for carrying out the purposes of the act. How the National Council can be given proper authority without being put in a position where it can interfere with the administrative policies of the medical schools presents a dilemma, the solution to which is not readily apparent."

Since S. 1453 has now passed the Senate and since it appears doubtful that further changes will be made by the House in the companion bill, H. R. 5940, the Board of Trustees feels it must oppose this bill.

The criticisms offered by the Council on Medical Education and Hospitals clearly indicate that this bill is not satisfactory and it is potentially dangerous to the continued academic freedom of the medical schools. Even though the bill provides for federal aid for only five years, if enacted, it will be difficult after such a period to change the relationship of the federal government to the medical schools except to permit further government control.

The comment of the Council on the opportunity for the exercise of political pressure and interference with respect to grants for construction is particularly well taken. If political pressure and interference are possible in one phase of a school's activities,

they can without great difficulty be brought to bear on other phases.

Too much potential authority to interfere with the internal administration of the medical schools is granted to the National Council on Education for Health Professions. As stated in the 12-Point Program of the American Medical Association, to protect the freedom of individual schools, "The responsibility and authority of the officials administering the program should be limited to an audit to determine that the funds are employed for the general purposes for which they were granted." Any program of grants in aid to medical education has far reaching implications with respect to the freedom of the medical schools. No program should be embarked upon until protection of this freedom is absolutely guaranteed. The Board of Trustees feels, therefore, that since this bill does not guarantee such freedom and since this bill contains other undesirable features, as pointed out by the Council, it must urge opposition to the enactment of this bill.

SENATE FINANCE COMMITTEE

(Contact members of this Committee re H. R. 6000)

Walter F. George, of Georgia
Tom Connally, of Texas
Harry Flood Byrd, of Virginia
Edwin C. Johnson, of Colorado
Scott W. Lucas, of Illinois
Clyde R. Hoey, of North Carolina
Robert S. Kerr, of Oklahoma
Eugene D. Millikin, of Colorado
Robert A. Taft, of Ohio
Hugh Butler, of Nebraska
Owen Brewster, of Maine
Edwin Martin, of Pennsylvania
John J. Williams, of Delaware

NEW SOCIAL SECURITY LAW

Increased rates—The rate has been increased from 1 per cent to 1½ per cent effective on wages received by the employee in 1950.

Instead of deducting 1 per cent from each employee's wages you will have to deduct 1½ per cent.

You will also have an *increase* in the amount you contribute as the employer from 1 per cent to 1½ per cent.

The total will be 3 per cent instead of 2 per cent.

Commencing on 1950 wages the deposits and reports for income tax withheld and social security taxes will be combined.

Read your new instructions in 1950 carefully for there are changes. No change for final 1949 reports due prior to January 31, 1950.

You must, if income tax, withholding and social security taxes exceed \$100.00 in January 1950, fill out the new federal depository receipt (Form 450) and make a deposit with a Federal Reserve Bank or an authorized commercial bank on or before February 15, 1950, and follow the same procedure each month thereafter. The first quarterly report is due on or before April 30, 1950 (Form 941).

NEWS NOTES

from the

Committee on Medical Service and Public Relations

Doctor-Pharmacist Meetings

At the last meeting of the Iowa Interprofessional Association the members representing the Iowa Pharmaceutical Association and the Iowa State Medical Society introduced the suggestion that joint meetings of doctors and pharmacists be held at the county level for the purpose of discussing mutual problems, the dispensing laws and voluntary health insurance. The Committee on Medical Service and Public Relations of the State Society has instructed its field secretary to cooperate with the Pharmaceutical Association in arranging and conducting these meetings.

Joint meetings have been held in the following counties: Pottawattamie, Montgomery, Mahaska, Hamilton, Webster, Carroll and Page. The results of these meetings have been most gratifying. The doctors and pharmacists in some of the counties are designing a prescription blank that will be uniform for the entire county. These uniform blanks will relieve some of the misunderstanding between the doctor and the pharmacist.

According to Dr. Paul Dunbar, administrator of the Federal Food and Drug Act, a prescription is a written expression of the physician's will and purpose that the patient be furnished a specific quantity of a drug for use as the physician directs. An original prescription may be telephoned or otherwise orally authorized but has no standing whatever unless it is a written authorization. A prescription can be telephoned or a doctor can orally instruct a pharmacist as to the original prescription, but it is worthless unless such authorization is signed by the physician. In case the original prescription is not signed, the pharmacist can be charged with over-the-counter sale.

Dr. Dunbar says a prescription can be refilled only with the specific authorization of the physician. Refilling without such authorization is in both fact and logic an over-the-counter sale.

Without specific authorization to refill, the special legal and professional status of a prescription expires on the first filling. Once filled such a prescription has the same value as a check on which the bank has once made payment.

Dr. Dunbar further states that a physician may authorize as many refills and at such intervals as his professional judgment dictates. The doctor may write on his prescription order an instruction to refill three times at weekly intervals. After the third refill the prescription then becomes a cancelled check. The physician may indicate any number of refills, or he may write the prescription for a large number of tablets, and they may be dispensed 60 tablets a month for a year, two years, etc., if requested by the patient. A physician may authorize a refill of a prescription orally, but the pharmacist for his own protection and under the law must obtain written confirmation.

The above information will serve as an introduction to the type of discussion that is carried on at a joint doctor-pharmacist meeting. The Committee on Medical Service and Public Relations urges the county medical societies to follow the precedent established by seven of the societies and request a meeting of this nature. The Iowa Pharmaceutical Association and the Iowa State Medical Society will accept the responsibility of arranging and conducting the program and the mailing of invitations to the doctors and pharmacists in the county. The speakers on the program usually include Mr. Dallas Bruner, executive secretary, Iowa Pharmaceutical Association; Mr. I. W. (Barney) Myers, legal counsel, Iowa Pharmaceutical Association and Iowa State Medical Society; and Mr. Donald L. Taylor, field secretary, Iowa State Medical Society. If your county medical society is interested in holding a doctor-pharmacist meeting, please write the office of the Iowa State Medical Society, 505 Bankers Trust Building, Des Moines, Iowa.

THE JOURNAL BOOK SHELF

BOOK REVIEWS

HEMATOLOGY

For Students and Practitioners

By *Willis M. Fowler, M.D.*, Professor of Internal Medicine, University of Iowa, Iowa City. Revised Second Edition. With a Chapter by *Elmer L. DeGowin, M.D.*, Associate Professor of Internal Medicine, University of Iowa, Iowa City. New York, Paul B. Hoeber, Inc., 1949. Price \$8.50.

The second edition of Willis M. Fowler's excellent treatise on *Hematology* should receive wide acceptance. Dr. Fowler, who is professor of internal medicine at the University of Iowa College of Medicine, has taught hematology for many years. The volume is basically a textbook intended to present the problems of clinical hematology in a form which will meet the needs of medical students and practitioners. The book is well arranged for this purpose. Discussions are short and lucid, yet most topics are well covered. References seem to be up to date and well chosen.

Following introductory chapters on the hematopoietic system and the various blood elements, there follow chapters on such broad topics as normal hematologic values, leukocytosis and leukopenia, and the anemias. Subsequent chapters concern themselves with various groups of blood diseases. It is interesting to note that the author has devoted a brief chapter to hematology in infancy and childhood. Hematologic methods are presented in brief detail.

Finally, an excellent chapter on blood transfusion enhances the whole presentation. The author of this chapter, Dr. Elmer DeGowin, a recognized authority in the field of blood transfusion work, is associate professor of internal medicine at the University of Iowa College of Medicine.

In closing, the reviewer wishes to emphasize that there is great need for adoption of standard nomenclature in hematology. Fortunately, a national committee of hematologists has adopted standard terminology for blood cells. Two reports of this committee, of which Dr. Edwin E. Osgood of Portland, Ore., is chairman, have been published recently in the *American Journal of Clinical Pathology*. The current edition of Fowler's *Hematology* went to press too early, certainly, for inclusion of the standard nomenclature, but it is strongly recommended that the author consider adoption of this terminology in his next edition, and that he teach this nomenclature to his students.

R. F. B.

SYNOPSIS OF HERNIA

By *Alfred H. Iason, M.D.*, Attending Surgeon, Adelphia Hospital; Director of Surgery, Brooklyn Hospital for the Aged; Instructor in Anatomy, New York Medical College. Illustrations by *Alfred Feinberg*, Instructor of Medical Illustrations, Department of Pathology, College of Physicians and Surgeons, New York City. New York, Grune and Stratton, 1949. Price \$6.50.

This book is a rather complete, fairly concise review of hernia. Dr. Iason has covered the common hernia and also the complicated, the internal, and the rare hernia in an orderly, comprehensive manner.

The essentials of surgical anatomy, applied physiology, etiology, symptoms, diagnosis and treatment are discussed for each type of hernia. The discussion of treatment includes the author's preference of surgical technic. The drawings in the book are excellent.

This easy to read book deals with the more common hernias in some detail. On the other hand, the portion devoted to the unusual forms is terse, yet informative to the reader.

D. D. M.

FUNDAMENTALS OF OTOLARYNGOLOGY

A Textbook of Ear, Nose and Throat Diseases

By *Lawrence R. Boies, M.D.*, Clinical Professor of Otolaryngology, Director of Division of Otolaryngology, University of Minnesota Medical School; and *Associates*. Philadelphia and London, W. B. Saunders Co., 1949. Price \$6.50.

This is an excellent book to learn the fundamentals of otolaryngology. Dr. Boies states in his preface, "As a textbook it is not only designed to offer this basic instruction to the student but also to provide fundamental information to the physician who is not a specialist."

The text is very well written and represents most of the opinions of the day. The text is presented in such a manner that it is a pleasure to read. References at the end of each chapter are of benefit to those who wish to read further on a subject.

D. A. S.

PSYCHOSOMATIC MEDICINE

The Clinical Application of Psychopathology to General Medical Problems

By *Edward Weiss*, M.D., Professor of Clinical Medicine, Temple University Medical School, Philadelphia. And *O. Spurgeon English*, M.D., Professor of Psychiatry, Temple University Medical School, Philadelphia. New, Second Edition. Philadelphia and London, W. B. Saunders Co., 1949. Price \$9.50.

Since the first edition of this book was written, the importance of the nervous system in the causation of illness has become more generally recognized. The effect of emotions on the body's physiology is especially evident during stress. World War II having presented numerous lessons in psychosomatic medicine and having popularized the concept, the authors have revised the first edition to include advances in the field.

The book covers general medical subjects as well as special branches of medicine, displaying the manner in which the mind and various body organs are interdependent.

Generally speaking, this book should be of interest to almost every one practicing medicine, for not only are "functional" disorders considered but also many which are generally considered to be "physical diseases."

M. J. R.

SHEARER'S MANUAL OF HUMAN DISSECTION

Edited by *Charles E. Tobin*, Ph.D., Associate Professor of Anatomy, University of Rochester School of Medicine and Dentistry. Second Edition. Philadelphia, The Blakiston Co., 1949. Price \$4.50.

The need of every student of gross anatomy for a practical laboratory guide is well fulfilled by *Shearer's Manual of Human Dissection*, edited by Charles E. Tobin. As clearly pointed out in the preface, this concise text is not meant to be used as the sole source of anatomic descriptions. Rather, the manual has been explicitly written to furnish a moderately brief, yet clear guide to help in a systematic dissection of the human body. It is recommended that supplemental reading be done in standard descriptive texts.

The contents of the book have been carefully divided into a series of anatomic areas; their order of use may be varied to fit the preferred course of dissection. The reader is also markedly facilitated by the fact that the important names have been placed in bold type and a moderate number of illustrations have been used.

Again it may be repeated that *Shearer's Manual of Human Dissection* would be an excellent aid to every student of gross anatomy.

R. S.

RAPID MICROCHEMICAL METHODS FOR BLOOD AND CFS EXAMINATIONS

By *F. Rappaport*, Ph.D., Laboratory Director of the Biochemical and Serological Department of the Beilinson Hospital, Petach Tiqa; Laboratory Director of the Bacteriological and Serological Department of the Hadassah Municipality Hospital, Tel-Aviv, Israel. With a Foreword by *F. Silberstein*, M.D. New York, Grune & Stratton, Inc., 1949. Price \$8.75.

The purpose of this book, as stated in the preface, is to (1) simplify laboratory procedures, (2) decrease the amount of material needed for analysis, (3) shorten the working time, (4) increase the precision of the results, (5) stabilize the solution wherever possible, and (6) work with simple apparatus. Expensive equipment, such as photometers and photoelectric colorimeters, is only mentioned.

The book is well bound and relatively free from typographical errors. Two errors were noted: on page 87, the normal iodine content of blood is given as between 12 and 14 per cent instead of 12 and 14 gamma (microgram) per cent; on page 167, the text refers to $N/100 Na_2O \cdot O_3$ instead of $Na_2S_2O_3$. The book is well organized, and the methods are presented in detail and with an exactness to the point of calling attention to, and accounting for, procedure steps in which difficulty or error may be encountered.

The book is excellent for reference and stimulating for the trained chemist, but it is not suited for use by the average medical technologist or technician in a hospital laboratory. The sixth purpose of this book is its principal fault. For example, the customary colorimetric determinations of serum sodium and serum potassium are omitted, and iodometric titration procedures are given. American hospitals are more likely to possess colorimeters or spectrophotometers and to lack the trained personnel capable of utilizing these more exacting methods. The book frequently gives procedures for whole blood and for serum analysis but is hazy about to which procedure the stated normal values refer. For example, on page 202, the 2-4 mg. per cent uric acid normals for whole blood follow a procedure for serum uric acid, whereas distinction should be made between normals for whole blood procedures and serum procedures.

Finally, the last of the criticisms, is the fact that the bulk of the references are to foreign sources, often inaccessible to the average hospital laboratory personnel. Except for institutions possessing fair-sided libraries, other books on this subject will prove more practical.

C. E. L. and R. F. B.

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WOMAN'S AUXILIARY NEWS

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LINES FROM THE PRESIDENT

Congress will be in session again by the time you receive this month's "Auxiliary News." No doubt there are many members who feel that too much stress has been placed on legislation to the detriment of other phases of Auxiliary work. We do not want to neglect any part of our Auxiliary program, but neither must we allow the alarming threat of central control to choke freedom of enterprise.

The Legislative Bulletin forwarded to you pointed out the measures which should concern you as Auxiliary members. How well you inform yourself and others will be evidenced by the results obtained in this present session of Congress. We stand at the crossroads in government. Shall we continue as a democracy or become a social welfare state? Much of the answer depends on you!

Mrs. Roger M. Minkel

NOTE TO PRESIDENTS AND SECRETARIES

Names of new officers should be forwarded immediately to Auxiliary headquarters in order to keep records and points of contact up to date. Annual dues of \$2.00 per capita are payable between January 1 and March 1, 1950, to the state treasurer, Mrs. W. B. Chase, Jr., 690 Sixty-third St., Des Moines. Failure to pay dues shall deprive a county Auxiliary of its representation and right to vote at the Annual Meeting.

NOTES ON NURSING

The total admissions to schools of nursing during 1949 was 43,612, an increase of 1 per cent over 1948. With the exception of the war years 1942-45 the number of admissions during 1949 was the largest ever reported. The many scholarships offered by all interested organizations are essential, but they are not sufficient to augment nursing personnel for the future. Federal aid was sought during the last session of Congress, and the Senate went so far as to pass a bill of that nature. The issue is certain to be presented in the current session. The bill S 1453 specifies that no governmental control will accompany federal aid and "experience in the general education field indicates that federal aid has not meant federal control."

Information from Theresa I. Lynch,
Chairman, Committee on Careers in Nursing

The Iowa Division of the American Cancer Society awarded 53 nurses' scholarships in 1949 and will award approximately 50 in 1950. Cost of tuition, books and uniforms is covered for the three year training period. April 1, 1950, is the closing date for applications.

SUGGESTIONS FROM STATE CHAIRMEN

Legislation

Have you read the Legislative Bulletin which was forwarded to you?

Did you use your information by passing it on to someone else?

Did you write to your Congressman?

Have you asked the people with whom you talked to write, too?

An affirmative answer to the above questions is the most valuable contribution you can make to the medical profession. There is an abundance of material available at Auxiliary Headquarters. Have you written for yours?

Mrs. C. C. Jones, Chairman

Public Relations

What have you done to aid in:

1. securing endorsements?
2. distributing literature?
3. developing speakers bureaus?
4. planning and executing publicity?

Have you supported the local projects of your county and State Auxiliary in:

1. contributing to the Nurse Loan Fund?
2. supporting our programs for the handicapped?
3. securing subscriptions for *Hygeia*?

Mrs. A. B. Phillips, Mrs. L. K. Shepherd, Co-Chairmen

Hygeia

Hygeia should be available in public libraries, schools, doctors' and dentists' offices, and beauty parlors. A gift subscription to your Congressman and one to your editor, mailed to their homes, are recommended. It is your privilege and opportunity to cooperate with your husband in the furtherance of health education through the Woman's Auxiliary. Members are not "magazine sales women" since there is no profit motive in the sale of *Hygeia*. It is a form of public welfare service. It is a means of advocating better health education in our communities. May I hear from your Auxiliary soon?

Mrs. J. T. Jackson, Chairman

ACTIVITIES OF COUNTY AUXILIARIES

Dallas-Guthrie

The Woman's Auxiliary to the Dallas-Guthrie Medical Society met in Dexter at the library after dinner with the doctors at The Elms. Sixteen members and two guests were present. The following officers were elected for 1950: president, Mrs. William A. Seidler, Jr.; president-elect, Mrs. Charles S. Fail; first vice president, Mrs. Keith M. Chapler; second vice president, Mrs. Elbert T. Warren; secretary, Mrs. Charles E. Porter; treasurer, Mrs. William V. Thornburg.

Mrs. Hague, of Adel, Dallas County cancer chairman, recommended a county survey of cancer patients through contact with the doctors so that those who are in actual need may receive benefits from the Cancer Society.

Mrs. William V. Thornburg, of Guthrie Center, Guthrie County cancer chairman, reported that Miss Virginia Wilson, of Panora, is a student nurse at Methodist Hospital, Des Moines, by virtue of a scholarship obtained through the Cancer Society.

Mrs. K. M. Chapler gave an entertaining review of Mary Bard's *The Doctor Wears Three Faces*.

Mrs. C. E. Porter

Delaware County

The Delaware County Medical Society and Auxiliary met at the Glen Charles Hotel on November 16. Following dinner, Mrs. Lucille Fristoe, general field representative, American Red Cross, from the Area Office in St. Louis, explained the national Red Cross blood program. At the meeting of the Auxiliary later she explained the volunteer services program of the American Red Cross. With our new county hospital due to open April 1, 1950, this was a meeting of great interest.

Guests were Mrs. John F. Kanealy, of Cedar Rapids, whose husband was guest speaker for the Medical Society; M. H. Runkle, retiring chairman, and Mrs. Runkle; Mrs. M. V. Stephenson, chapter secretary (Red Cross); Miss Joella Antes, district health nurse, and Mrs. Harry H. Ennis.

The December meeting will be a joint meeting of entertainment only, with the Auxiliary in charge of arrangements.

Mrs. B. H. Byers

Blackhawk County Organizes

Blackhawk County voted to formally organize as an Auxiliary in November. Election of officers will be held on January 17 with Mrs. Craig D. Ellyson, Mrs. Harold O. Gardner, both of Waterloo, and Mrs. L. James Henderson, of Cedar Falls, in charge of arrangements. Mrs. Roger M. Minkel, state president, was guest speaker at the November meeting. She urged the women to take part in community medical projects, to accept their duties as doctors' wives, and to become informed on matters pertaining to health and welfare. She warned against the danger of government control in medicine.

A.M.A. ANNUAL MEETING

The 1950 A.M.A. convention will be held in San Francisco in June. The names of women who expect to attend should be sent to Auxiliary headquarters so that they may be presented for election as delegates from the Auxiliary.

SPEAKERS

It is the desire of the chairmen of standing committees and the officers of the Woman's Auxiliary to supply speakers on the Auxiliary program to any county group desiring such a program. Please contact Auxiliary headquarters if we can aid in the program of your Auxiliary.

WORLD HEALTH DAY

International Observance on Wide Scale

The first World Health Day was celebrated on July 22 by countries in all five continents of the globe. Most of the member states of WHO made special efforts to ensure the success of this international demonstration of the movement towards a healthier world.

From Ethiopia to Venezuela, from South Africa to Austria, from Portugal to Pakistan, nations organized public gatherings, meetings and displays. Haiti issued a special postage stamp. A mass rally was held in one of Vienna's famous concert halls. France carried out nation-wide plans through official health services. The United States heard World Health Day broadcasts on national networks. An exhibition was held in Lebanon.

Two examples, taken from the varied national arrangements planned for this day, will serve to illustrate the forms of public interest shown in world health.

Burma displayed exhibits on nine important health subjects, each accompanied by lectures. Cinema shows on health matters were given on the day, and a play was especially presented at the exhibition, which was formally opened by the president of the Union of Burma.

Finland arranged special broadcasting programmes for World Health Day with music and speeches of significance to the occasion. Articles were prepared for newspaper publication and a reception was held by government authorities for workers in the field of medical welfare.

Space prevents the listing of each individual effort, but the pattern followed by many countries was comprehensive, including usually such public-reaching media as press, radio, cinemas, and functions and displays organized by public health and voluntary bodies. In several instances the Minister of Health broadcast to the people of his nation.

The response to these activities was valuable, as great numbers of citizens saw and heard for themselves something of the work being done for them by their own governments as part of the pattern for health of the whole world, and, equally important, were made aware of the work yet to be done and the part in it they themselves could play. The increasing

interest almost everywhere in public health is encouraging, and further efforts in this direction will be of direct aid in implementing health programmes.

In order to expand the scope of public information on health matters, World Health Day for 1950, and subsequent years, will be observed on the seventh of April, the day when the Constitution of WHO officially came into force in 1948. This date would mean the important addition of thousands of schools to the number of institutions for which official functions can be planned, as in many countries most school children are not in attendance during July. Thus the new date will reach the greatest proportion of children and youth generally, who, from the long-term aspect, represent one of the most important population groups in any country.

The idea of holding a World Health Day each year to arouse general interest in health matters was first proposed by the Iranian Delegation following the International Health Conference in New York, and was formally adopted by the First World Health Assembly in Geneva, 1948.

The second World Health Day is confidently expected to produce even better results, and many governments are already planning activities which will present the health work of the world to their peoples with ensured success on April 7, 1950.

WHO Newsletter (Sept.) 1949

ABOUT THE AMERICAN MEDICAL ASSOCIATION—

Do You Know?

That the American Medical Association was organized in 1847?

That the American Medical Association, through its Bureau of Legal Medicine and Legislation, demands for the protection of consumers adequate federal and state laws to outlaw adulterated and misbranded foods, drugs, therapeutic devices and cosmetics, and to regulate the sale of dangerous drugs generally?

That in 1872 the hospitals of the United States had a capacity of around 150,000 beds? That by 1909 there were 421,000 beds? That in the next 29 years hospital bed capacity increased to 1,124,548, according to the Council on Medical Education and Hospitals?

That the Council on Foods was established because advances in nutrition in the past two decades have been spectacular and far-reaching in their human application?

That the American Medical Association publishes numerous pamphlets on child welfare, sex education, personal hygiene, public health, vision and cancer?

The Bulletin (March) 1943

ARE YOU AN IDEAL WIFE?

by

Winnie M. Sanger, M.D.

(With 29 years' experience as a practitioner of medicine and 30 years as a doctor's wife herself, Dr. Sanger believes that any woman who can check off a score of 90 on the following questionnaire should be called ideal.)

1. Do you refrain from complaining about the doctor's irregular hours and the calls he has to make at inconvenient times during the day and night? (10 ...)
2. Do you see to it that he gets appetizing, nourishing meals as well as a snack to eat whenever he needs it after a night call? (10 ...)
3. Do you help him to enjoy a reasonable amount of recreation at home or in outdoor sports where only emergency calls can reach him? (10 ...)
4. Are you cordial, tactful, and considerate whenever you have occasion to talk with one of your husband's patients? (10 ...)
5. Are you building contacts for the doctor by frequently attending clubs, parent-teacher associations, and other civic organizations and by getting as widely acquainted in your neighborhood as possible? (10 ...)
6. Do you sidestep all gossip and scandal and avoid discussing your husband's medical cases or those of other local physicians? (10 ...)
7. Can you and do you stimulate confidence in the doctor at every opportunity without appearing to do so? (10 ...)
8. Have you a tastefully arranged, well kept home that patients admire and where your husband can find rest and enjoyment? (8 ...)
9. Are you able to discuss intelligently with both lay and professional friends most of the currently talked about medical items of interest, manifesting at the same time a good general knowledge of things pertaining to medicine? (5 ...)
10. Are you always well groomed without suggesting by your manner of dress that you have a wealthy husband who doesn't need to collect for his services? (5 ...)
11. Do you devote yourself to the job of being a real companion to the doctor during his spare time, accompanying him on calls and to meetings now and then when he asks you to? (5 ...)
12. Do you curb your desire to inflict personal worries and responsibilities on him when he has his own to think about? (3 ...)
13. Is it a rule with you to avoid giving your husband the impression that you are jealous of his women patients? (2 ...)
14. Do you visit his office occasionally to do what you can by way of making it a pleasanter, more efficient place in which to work and receive patients? (2 ...)

SOCIETY PROCEEDINGS

MEETINGS

Boone-Story

The regular monthly meeting of the Boone-Story Medical Society was held December 13 at the Hotel Sheldon-Munn in Ames. Dr. James K. Stack of Chicago, chief surgeon of the Chicago and Northwestern Railroad and associate professor of orthopedics at Northwestern University, spoke on the "Treatment of Fractures of the Carpal Bones."

Butler

Butler County Medical Society and its Auxiliary met November 14 in Parkersburg with Mrs. B. G. Tye of Curlew, field director of the Iowa division of the American Cancer Society, and Mrs. C. H. Riggert of Allison, county chapter chairman, to discuss ways and means of controlling cancer in the county.

Cerro Gordo

At the meeting of the Cerro Gordo County Medical Society on December 13 at Hotel Hanford, Dr. Samuel G. Taylor, III, spoke on "Recent Advances in Treatment of Cancer." Dr. G. J. Sartor was elected president; Dr. E. H. Barg, vice president; Dr. George Tice, secretary; Dr. J. W. Lannon, treasurer; Dr. Carroll Adams, delegate; and Dr. Harold Morgan, alternate.

Chickasaw

Dr. A. L. Murphy, Fredericksburg, was elected president of the Chickasaw County Medical Society at its annual meeting December 12. Dr. J. H. Ahrens, New Hampton, was named secretary-treasurer.

Central District

The Central District Medical Society held its quarterly meeting in Hotel Blackhawk, Davenport, on November 30. Guest speaker was Dr. F. H. Bethell, Ann Arbor, Mich., professor of internal medicine and medical director of the curriculum in medical technology at the University of Michigan and assistant director of the Simpson Memorial Institute, whose subject was "Therapeutic Advances in Hematology." Dr. F. R. McFadden, Davenport, was also a speaker on the program, and Dr. H. M. Hurevitz, Davenport, led a discussion session. The dinner-meeting opened with a color motion picture on "Malnutrition in the Hospital Patient."

Delaware

The Delaware County Medical Society and its Auxiliary met for dinner and a Christmas party at the Glen-Charles Hotel December 7. At the business session, Dr. Paul Stephen was re-elected president,

with Dr. C. B. Rogers, vice president, and Dr. Paul G. Meyers, secretary-treasurer.

Dallas-Guthrie

The Dallas-Guthrie Medical Society met with its Auxiliary at The Elms in Dexter on November 23. Separate meetings were held following luncheon, with Dr. Charles Latchem, Des Moines urologist, addressing the doctors.

Dubuque

Dr. Donovan F. Ward was elected president of the Dubuque County Medical Society at a meeting December 13 at the Bunker Hill Country Club in Dubuque. Other newly elected officers were Dr. Paul Skelly, first vice president; Dr. Emil Mueller, second vice president; Dr. Clarence A. Darrow, secretary; Dr. J. C. Kassmeyer, treasurer; Dr. Donald C. Konzett, delegate; Dr. H. G. Langworthy, historian. Elected to the board of censors were Dr. Kenneth K. Hazlet, Dr. Harry A. Stribley and Dr. Roy I. Theisen.

Iowa

The annual meeting of the Iowa County Medical Society was held November 29 in Homestead. Dr. Campbell Watts of Cedar Rapids read a paper on "Cancer of the Lip." Re-elected officers were Dr. D. F. Miller, president; Dr. T. D. Clark, vice president; and Dr. I. J. Sinn, secretary-treasurer.

Marshall County

Dr. Jacob J. Stegman was elected president of the Marshall County Medical Society at a meeting December 6 at Hotel Tallcorn. Other newly elected officers are Dr. Edwin J. Marble, vice president; Dr. Earl Keyser, secretary; Dr. Otis Wolfe, Jr., delegate, and Dr. Lawrence Goodman, alternate. Dr. P. R. Lipscomb, of the orthopedic section of Mayo Clinic, gave a talk on fractures of the hip illustrated by slides.

Polk County

The Polk County Medical Society met December 21 at the Hotel Savary in Des Moines. Following dinner and a business meeting, Dr. Nathan A. Womack, professor and head of the department of surgery, SUI College of Medicine, spoke on "Benign Lesions of the Esophagus."

Pottawattamie County

The Pottawattamie County Medical Society held a dinner-meeting November 15 at the Hotel Chieftain, Council Bluffs. Dr. Harry McCathy of Omaha, instructor in surgery at Creighton University, demonstrated an unnamed apparatus used for the prevention of postoperative blood clots.

Union County

At the luncheon meeting December 7 of the Union County Medical Society, Dr. J. R. Dewey of Schaller discussed ways for combating cancer. Dr. Dewey is chairman of the committee on lay education for the Iowa Division of the American Cancer Society.

Webster County

The Webster County Medical Society met with the pharmacists for dinner November 16 at the Wahnonsa Hotel, Fort Dodge. Mr. D. L. Bruner, secretary of the Iowa Pharmaceutical Association, spoke on "Recent Prescription Legislation." A business meeting followed.

Woodbury

Dr. Wayland K. Hicks succeeded Dr. Edward M. Honke as president of the Woodbury County Medical Society at the annual election dinner-meeting December 14 at the Sioux City Club. Dr. Frank D. McCarthy was named president-elect. Other new officers are Dr. A. Q. Johnson, vice president; Dr. Martin Blackstone, secretary; and Dr. Howard Down and Dr. John Lutton, censors.

PERSONALS

Dr. Milford E. Barnes, head of hygiene and preventive medicine at SUI College of Medicine, spoke to the Iowa City Engineers Club December 12 on aspects of public health to be considered in sanitary engineering.

Dr. T. Lyle Carr was recently appointed an assistant professor in the department of internal medicine at SUI College of Medicine. Dr. Carr was graduated from the University of Cincinnati College of Medicine in 1943 and has since been associated with University of Iowa Hospitals.

Dr. James W. Culbertson has been appointed an assistant professor of internal medicine and director of the laboratory for cardiovascular research at the SUI College of Medicine. Dr. Culbertson comes from the faculty of the Boston University School of Medicine, where he has been associated with the Evans Memorial Department of Clinical Research and Preventive Medicine of the Massachusetts Memorial Hospitals. The laboratory for cardiovascular research recently received a \$15,000 grant from the Iowa Heart Association for the purchase of equipment.

Dr. Ralph R. Edwards, Centerville, spoke on socialized medicine November 22 at a dinner-meeting of the local Business and Professional Women's Club.

Dr. Russell Gerard, Waterloo, who recently visited England, where he made a study of their socialized medicine program, addressed the Iowa Falls Teachers Association December 1 on "Socialized Medicine."

Dr. Bruce F. Howar, Webster City, discussed "Socialized Medicine" at a meeting of the Kiwanis Club there December 1.

Dr. Leo Kuker, Carroll, presented a paper on "Emergency Surgery of the Heart" to the Library Club of Des Moines Physicians and Surgeons and the house staff of Iowa Methodist Hospital on November 30.

Dr. Jane Washburn McMullen of Moline, Ill., formerly of Des Moines, has been appointed supreme physician of Royal Neighbors of America, fraternal benefit society.

Dr. Herbert C. Merillat, Des Moines, has been appointed a member of the state mental health hygiene committee, succeeding Dr. W. E. Ash, Council Bluffs, who recently resigned.

Dr. Harold W. Morgan of Mason City was elected president of the Iowa Division of the American Cancer Society at its annual meeting in Des Moines recently. Dr. Vernon W. Petersen of Clinton was named vice president, and Dr. A. W. Erskine of Cedar Rapids, secretary.

Dr. Paul W. Morgan has become associated with his brother, Dr. Harold W. Morgan in Mason City. Dr. Morgan recently completed a three year residency at University Hospitals, Iowa City, and passed certification with the board of the American College of Radiology.

Dr. Carrol C. Nelson, Red Oak physician since 1935, is moving to Fremont, Neb., where he will serve on the staff of the Dodge County Hospital.

Dr. Cloyce A. Newman, who has practiced nearly 10 years in Bode, is leaving to take over his father's practice in Topeka, Kan. Dr. Lee O. Snook, Jr. is taking over Dr. Newman's office. Dr. Snook came to Iowa from New Jersey some months ago and has been practicing in Wesley.

Dr. T. V. Niemann, who moved to Bellevue last spring, is returning to Brooklyn, where he formerly practiced.

Dr. L. J. O'Brien of Fort Dodge spoke on "The Patient, the Doctor and Cancer" at the annual meeting of the Webster County Chapter of the American Cancer Society on November 28 in Fort Dodge.

Dr. Frank R. Peterson of Cedar Rapids gave an address on "Cancer" before the Rotary Club there on November 7.

Dr. Leonard O. Riggert, Clinton, has been named county coroner, succeeding Dr. Robert W. Johnson, who recently resigned.

Dr. Paul M. Seebohm has been appointed an associate in the department of internal medicine and will direct the Allergy Clinic at University Hospitals, Iowa City. He was graduated from the University of Cincinnati College of Medicine and has recently been associated with the Allergy Clinic of the Roosevelt Hospital, New York City.

Dr. Edward B. Williams was honored by a luncheon by the Montezuma Lions Club in recognition of his more than 50 years of service.

Dr. E. G. Zimmerer of Des Moines, Iowa director of Cancer Control, spoke on "Cancer" at a Dickinson County meeting held at Spirit Lake December 5.

Initiated into fellowship by the American College of Surgeons at its meeting in Chicago in October were Drs. Martin A. Blackstone, Sioux City; Raymond G. Bunge, Iowa City; Walter V. Campbell, Oskaloosa; Howard I. Down, Sioux City; Johann L. Ehrenhaft, Iowa City; William C. Eller, Waterloo; Howard G. Ellis, Des Moines; John F. Kelly, Sioux City; Leo H. Kuker, Carroll; Edwin M. Limbert, Council Bluffs; Gardner D. Phelps, Waterloo; Ross G. Randall, Waterloo; Hugh F. Rives, Dubuque, and Fred R. Tingwald, Iowa City.

The following surgeons were made fellows and associate fellows in the International College of Surgeons at the convocation ceremonies of the College held during the Fourteenth Annual Assembly of the College in Atlantic City, N. J., November 7-11, 1949: certified fellow—Dr. Louis T. Palumbo, Des Moines, and Dr. Seth G. Walton, Hampton; advance to rank of fellow—Dr. Oswald C. Hardwig, Waverly, Dr. Earl D. McClean, Des Moines, and Dr. David L. Rater, Ottumwa; associate—Dr. Robert L. Feightner, Fort Madison; advanced to rank of associate—Dr. Samuel Dale Porter, Grinnell, Dr. Otis B. Wolfe, Marshalltown, and Dr. Russell M. Wolfe, Marshalltown.

DEATH NOTICES

Haisch, Lily Kinnier, 73, Dubuque, died suddenly November 26 at her home. Born in South Berlin, N.Y., Dr. Haisch had practiced in Dubuque since her graduation from Northwestern University Medical School in 1899. Only two weeks previous to her death she was honored by the Dubuque County Medical Society as a 50 year member. She was also a member of the Iowa State Medical Society.

Rendleman, William H., 69, Davenport, died at Mercy Hospital November 14 from a heart ailment, having been a patient there since September 9. Born in Union County, Ill., Dr. Rendleman was graduated from Rush Medical College in 1904. After an internship in Cook County Hospital, Chicago, he located in Davenport, where after a year's study in Europe in 1912 he specialized in internal medicine. He was

a member of the Scott County and Iowa State Medical Societies.

Riley, John, 99, Exira, died at the Carroll Hospital on December 4, having been a patient there for three weeks. Born in Galesburg, Ill., Dr. Riley was graduated from the University of Iowa College of Medicine in 1880 and actively practiced in Exira until about ten years ago, when he went into semi-retirement. He was a life member of the Audubon County and Iowa State Medical Societies.

BLUE CROSS—BLUE SHIELD PROGRAM 1950

A new year quietly slips in, and we feel the urge to take at least a hasty review of the past year's accomplishments, but more important is to seriously plan for 1950. Our immediate query is: Have we extended the privilege of our voluntary, prepayment plans to all who would wish the benefits if they knew about them? Have we an obligation to the people of our communities to see to it that they know about the Service Plans, Blue Cross and Blue Shield?

The field of rural enrollment, which is most important in our state, is only tapped. We are a long way from doing an adequate job. The plans are busy exploring ways and means of satisfactory expansion.

Individuals self-employed or in groups of five or less and under 65 years of age must be reached. A gradual start is being made in this direction. Studies have been projected, and a program is being designed for these people.

The nine man committee, composed of the executive directors of Iowa Medical Service, Associated Hospitals Service, Inc., Sioux City, and Hospital Service, Inc., of Iowa, Des Moines, together with two board members of each plan are studying mutual problems with the combined intent of solving some of the over-all problems and, further than that, of intelligently devising ways and means to better serve our public. An effort will be made to build confidence and avoid confusion in the services of the three plans through more uniform advertising, benefits and rate structures. A sustained educational program of advertising is being planned to start early in the year.

This is one avenue to reach the people, but the best of all is the spoken word of one who believes in the integrity of the program and its inherent merits for meeting the health needs of the people. The confidence inspired by hospital and doctor's office personnel when an identification card is presented, and the greatest of all, the spoken approval of the family doctor, mean more than any amount of newspaper copy.

American Academy of General Practice is meeting in St. Louis, Mo., February 20-23, 1950, with headquarters at Kiel Auditorium, for its 1950 Scientific Assembly.

American College of Allergists will hold its Sixth Annual Congress at St. Louis, Missouri, January 15-18, 1950, at the New Hotel Jefferson.

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No. 2

HEMANGIOMA OF THE LIVER

Frederick W. Preston, M.D.,
Mason City and James T. Priestley, M.D.,* Rochester, Minn.

A small hemangioma in the liver is not an uncommon finding at necropsy. In fact, Geschickter said that this tumor is found more often in the liver than in any other internal organ. Despite the relative frequency with which small hemangiomas may occur, one large enough to be of clinical significance is seldom seen. If such a tumor is encountered by a surgeon, it is usually found on abdominal exploration in a case in which examination discloses a mass of indeterminate type. The following case recently aroused our interest in this subject.

The patient was a woman, aged 40 years, who had first noted a mass in the right upper quadrant of the abdomen four years before she came to the Mayo Clinic. Exploratory laparotomy disclosed an enormous vascular tumor which occupied most of the right lobe of the liver and which, at least in our hands, was considered to be inoperable. After the patient had received 15 treatments with roentgen rays, the tumor became somewhat smaller.

More recently we have observed another case in which exploratory laparotomy revealed an inoperable hemangioma which involved the right and left lobes of the liver. This tumor was larger than the one in the previous case.

The literature of hemangioma of the liver was reviewed several years ago by Peck and Eckles and more recently by Ayres Netto and Amorim and also by Shumacker. Shumacker reported a case in which a large portion of the left lobe of the liver was resected for hemangioma, and he reviewed reports of 66 additional cases found in an extensive search of the literature. In 56 of these 66 cases the tumor was resected, with only one death, a remarkable record when the magnitude of some of the operations is considered. At least 2 additional cases in which resection was performed have been reported since 1942.^{1, 13} In-

dividual experience with this tumor has been rather limited, few, if any, authors reporting more than a single case which they had observed personally.

Material

This report is based on a review of 27 cases of hemangioma of the liver in which laparotomy was performed at the Mayo Clinic in a period of 27 years, namely, from Jan. 1, 1920, to Dec. 31, 1946, inclusive. To facilitate analysis the 27 cases have been divided into two groups: Group 1 includes 7 cases in which operation was performed primarily because of symptoms and physical or laboratory findings directly attributable to a tumor of the liver; group 2 includes 20 cases in which there were no signs or symptoms attributable to a tumor of the liver. In this group a hemangioma which varied from 0.5 to 4.0 cm. in diameter was discovered incidentally when an operation was performed for some other pathologic condition. Undoubtedly during the 27 years covered by this study many other small hemangiomas of the liver remained undetected or were considered to be of no clinical significance and therefore was not noted in the surgical record. This statement is based on the relative frequency with which pathologists have found small hemangiomas of the liver in any large series of carefully conducted postmortem examinations. Small hemangiomas that were noted at the time of operation were included in this study, however, for the purpose of determining if they grew and caused clinical symptoms at a later date.

Clinical Consideration

In the entire group of 27 cases the ratio of female patients to male patients was approximately 2.5 to 1. In the group of cases reviewed by Shumacker this ratio was 4.5 to 1.

Group 1.—In the 7 cases in which operation was performed primarily for what proved to be a hemangioma of the liver a positive preoperative diagnosis was not made in any case in which an abdominal operation had not been performed previously, although the presence of a cyst of the liver was suspected in several cases. The 7 cases

*Division of Surgery, Mayo Clinic.

in this group have been divided into two subgroups: Group 1a includes 3 cases in which complete or partial removal of the tumor was accomplished, and group 1b consists of 4 cases in which the tumor was not removed.

Group 1a.—One of the 3 cases in this group was reported by Nettrour soon after the tumor was removed by Dr. C. W. Mayo. A carcinoma of the thyroid had been removed a few months prior to the operation for the abdominal mass which proved to be a hemangioma of the liver. The patient lived for a little more than seven years after removal of the tumor of the liver. Death presumably was due to a recurrence of the malignant lesion of the thyroid gland.

In the second case in this group the patient was 14 months of age and had a huge cystic tumor of the liver, which subsequently proved to be a cavernous lymphangiohemangioma. The tumor was partially removed by marsupialization. The patient died 48 hours later. Of the 7 cases in group 1 this was the only one in which the patient died before being dismissed from the hospital.

In the third case in group 1a approximately a fourth of the left lobe of the liver was resected. The patient was living and free of symptoms slightly more than a year after the operation was performed.

Group 1b.—The tumor was inoperable in all of the 4 cases in this group. In each instance the tumor was large and had extensively invaded the liver. Biopsy was performed in 2 of the 4 cases; in the 2 remaining cases the diagnosis was based on the gross appearance of the tumor, which was characteristic of a hemangioma. In both of the cases in which biopsy was performed great difficulty was experienced in controlling the bleeding which followed removal of the specimen. Other surgeons^{3, 9, 10, 12} have experienced the same difficulty.

Roentgen therapy was used postoperatively in 2 of the 4 cases in this group. In the first of these cases the operation was performed in 1936. In the immediate postoperative period roentgen therapy was administered on 16 occasions. After the completion of the roentgen therapy the size of the tumor decreased moderately. So far as could be determined by physical examination in 1948 there had not been any subsequent increase in the size of the tumor. In the other case in which roentgen therapy was used exploratory laparotomy was performed in 1939, and the patient was treated with roentgen rays after she returned to her home. When the patient was examined again in 1947, palpation did not dis-

close any mass, although the liver extended 2 inches (5 cm.) below the xiphoid cartilage.

In one of the 2 cases in which roentgen therapy was not used after the operation the patient died in the following year, presumably of causes related to the hepatic lesion, which was of enormous size. In the other case the patient is alive and working every day approximately six years after the operation, but the exact size of the tumor is not known.

Group 2.—This group consists of 20 cases in which the presence of a hemangioma of the liver was discovered in the course of laparotomy for some unrelated pathologic condition. All of the patients survived the operation. This group of 20 cases also has been divided into two subgroups: Group 2a includes 5 cases in which the tumor was removed, and group 2b consists of 15 cases in which the tumor was not removed.

Group 2a.—Since the tumors were small (0.5 to 4.0 cm. in diameter) in all of the 5 cases in this group, no particular difficulty was experienced in their removal. In one of the cases the hemangioma apparently was recurrent, because a small hemangioma had been removed, presumably from the same site, 12 years previously. The patients in this group of cases have been followed for from one to 17 years since the operation, and all but one of them have been followed for more than five years. All of the patients were living when this paper was written. There has been no evidence of recurrence of the tumor, and none of the patients has any symptoms referable to the liver.

Group 2b.—This group consists of 15 cases in which the tumor was not removed. Biopsy was performed in 7 cases; in the remaining 8 cases the diagnosis was based on the gross appearance of the tumor. Adequate follow-up data were available in 13 of the 15 cases. In one of the 13 cases the hemangioma of the liver was discovered in the course of partial gastrectomy, which was performed for carcinoma of the stomach. The patient died, presumably of a recurrence of the carcinoma of the stomach, one year after the operation was performed. In the remaining 12 cases the patients were still living when this paper was written. An abdominal mass has not developed in any of these cases, and none of the patients has symptoms attributable to a lesion of the liver. The duration of the follow-up study in these cases was as follows: less than three years in 2 cases, three to five years in 4 cases, five to ten years in 3 cases, thirteen years in 1 case, and more than fifteen years in 2 cases.

Comment

A few questions which naturally arise regarding hemangiomas of the liver seem pertinent from a practical point of view; namely, (1) the signs and symptoms, (2) the surgical treatment, (3) the fate of hemangiomas which are not removed, and (4) the effect of roentgen therapy on these tumors. Although the present series of cases is too small to permit definite conclusions, information obtained by the study of these cases and by a review of other reported cases furnishes some rather definite answers to these questions.

Signs and Symptoms.—It seems apparent that hemangioma of the liver is a silent tumor unless it becomes large enough to produce symptoms purely because of its bulk. Although it is conceivable that a relatively small tumor of this type, if strategically situated, might cause symptoms because of pressure on various parts of the biliary tract or by interference with the vascular tree of the liver, such an occurrence must be rare. By far the most common complaint of patients who have a hepatic hemangioma large enough to be of clinical significance is an enlarging abdomen or abdominal tumor. This may be the only complaint; however, there often are associated symptoms of a nondescript nature which are referable to the gastrointestinal tract, especially the stomach. Less frequently these symptoms may suggest a disturbance in the esophagus, duodenum or biliary tract. It has been reported in the literature^{7, 8, 20} that hemangiomas may appear with some frequency in association with disease in the biliary tract. Gallstones were present in 2 of the 7 cases in group 1, that is, the group in which the hemangioma produced signs and symptoms which were suggestive of a hepatic tumor. It is difficult to understand just how a tumor of this type might be related etiologically to biliary calculi. In one case reported in the literature²⁰ hydrops of the gallbladder resulted from pressure by a hemangioma on the cystic duct.

Severe pain is uncommon, but moderate discomfort may be present in the epigastrium or in the vicinity of the tumor. For no apparent reason many patients who have a hemangioma of the liver complain of symptoms which cannot be related in any way to the hepatic lesion.

Physical examination reveals either nothing of significance or a rounded, perhaps slightly tender, usually immobile tumor in the upper part of the abdomen. Although pedunculated hemangiomas of the liver which might well become manifest as a moveable mass have been reported,^{2, 13, 15, 16, 18, 20} no tumor of this type was encountered in the present series. Evidence of loss of weight may exist in cases in which the tumor is well devel-

oped; however, ascites or jaundice rarely has been noted. A bruit has been detected on auscultation over the tumor in a few cases and probably would be found more often if it were sought in every case. Hemangiomas elsewhere in the body have been reported^{1, 5, 11} but are the exception, and in only one case in the present series were any hemangiomas observed elsewhere than in the liver. In this case the hemangiomas were in the skin and perhaps would have gone unnoticed if a hemangioma had not been found in the liver.

The results of laboratory studies for the most part are negative. A plain roentgenogram of the abdomen may show a soft tissue mass in the region of the liver. Roentgenographic examination of the stomach may reveal a gastric abnormality, which usually is interpreted as being caused by extragastric pressure but in a few cases has been mistaken for a primary gastric lesion such as a leiomyoma or other benign tumor. Examination of the blood, tests for hepatic function and other laboratory tests as a rule do not throw much light on the diagnosis except in a negative way, and obviously there is no pathognomonic clinical picture which indicates preoperatively the presence of a hemangioma of the liver. For this reason the diagnosis is established prior to operation only in the exceptional case.

Surgical Treatment.—Since a preoperative diagnosis of hemangioma of the liver is seldom made, the problem with which the examining physician is confronted is that of an indeterminate type of tumor in the upper part of the abdomen. Most surgeons will agree, we believe, that, if the patient's general condition permits, a lesion of this type should be explored with the hope of accomplishing its removal. Complete resection of the lesion is the procedure of choice, provided that this can be accomplished without undue hazard to the patient. Some hemangiomas because of their size and situation obviously would be most difficult and dangerous to remove. In this regard, as will be mentioned later, the surgeon should remember that these tumors do not behave like malignant tumors; their rate of growth usually is slow, and roentgen therapy may result in a decrease in the size of the tumor. Thus it would appear that, while removal of the tumor certainly is desirable, the surgeon is not justified in assuming a risk for the patient which might rightly be assumed if he were dealing with a serious malignant growth.

If the tumor is not too large, its removal presents no particular problem. Should it be pedunculated, as it has been in some of the reported

cases,^{2, 13, 15, 16, 18, 20} its surgical removal is relatively simple. In dealing with tumors that involve a rather large portion of the liver various methods have been employed to obtain hemostasis after removal of the tumor. These include the use of previously placed mattress sutures in the hepatic parenchyma, large rubber-shod clamps of the Doyen type, large curved forceps, one of the absorbable hemostatic gauzes, perhaps soaked with a solution of thrombin, and the less desirable packing with gauze. Various other aids were used in some of the earlier cases reported in the literature, including extraperitonization of the tumor, placing a tourniquet around a broad pedicle, mass ligatures of the liver and the actual cautery. The electrosurgical unit may be helpful in obtaining hemostasis. Temporary digital compression of the hepatic parenchyma or perhaps even the vascular pedicle of the liver may be helpful in locating and securing bleeding points. Adequate exposure, of course, is of paramount importance, and any maneuver that will increase exposure, depending on the site of the tumor, should be employed. In our opinion, in all cases in which there is any significant section of liver drainage should be employed because of the possible subsequent leakage of bile.

It has been the experience of numerous surgeons^{3, 9, 10, 12} that removal of a specimen of a hemangioma of the liver for biopsy or aspiration with a needle may be an extremely hazardous undertaking. Neither of these procedures is recommended. Control of the bleeding which ensues may be quite difficult. Usually, complete removal of the tumor can be accomplished more safely. In removal of the tumor care should be exercised not to cut or break into the hemangioma; if this is done, difficulty with bleeding may be experienced.

Should the small incidentally discovered hemangioma of the liver be removed? While evidence regarding this point is rather scant, it does suggest that small hemangiomas, discovered in the course of operation for some other condition, seldom cause trouble within many years. On the other hand, it does seem possible that, if a large enough series of cases was studied, an occasional tumor of this type might start to grow with moderate rapidity; therefore, we are inclined to favor removal of a hemangioma when found in the liver if it is in an accessible position. Such a procedure would certainly add little to the surgical risk of the operation.

Fate of Unremoved Hemangiomas; Value of Roentgen Therapy.—What is the prognosis in a case in which a hemangioma of the liver is not removed? In 7 (group 1) of this small series

of 27 cases operation was performed because of signs and symptoms which were suggestive of a hepatic tumor. In 4 (group 1b) of the 7 cases the tumor was large and was not removed. Roentgen therapy was used postoperatively in 2 of these 4 cases. In both of the cases in which roentgen therapy was used there was definite evidence that the size of the tumor decreased subsequently. In one of these cases the tumor could no longer be palpated, although it could be palpated readily before roentgen therapy was started. Similar cases have been reported in the literature. In an interesting case reported by Ray vascular clips, which commonly are used by neurosurgeons, were placed around the periphery of a hemangioma of the liver that was not removed. Roentgen therapy was used after the operation. A comparison of roentgenograms made before and after roentgen therapy revealed a definite decrease in the size of the tumor at the completion of the treatment.

In one of the 2 cases of group 1b in which roentgen therapy was not used the tumor was enormous, and the patient died, apparently of the hemangioma, about one year later. In the other case the patient is living and working daily six years after the operation.

Although the number of reported cases is small, there certainly is enough evidence to warrant advising the postoperative use of roentgen therapy in cases in which an inoperable hemangioma of the liver has produced signs and symptoms suggestive of a tumor of the liver.

In many cases in which a hemangioma of the liver produces a palpable mass in the upper part of the abdomen the patients have noticed the mass for from three to five years or longer before they submit to operation, and during this interval they have noticed that the size of the mass has increased slowly.

In 20 (group 2) of the 27 cases in this series the hemangioma was found incidentally in the course of laparotomy for some other pathologic condition. In 15 (group 2b) of these 20 cases the hemangioma was small and was not removed. In 12 of these 15 cases the follow-up data were obtained for periods of from two to more than 15 years; in 6 of the 12 cases the patients were followed for periods which ranged up to 20 years. A palpable abdominal mass, at least one which could be detected by the patient, has not developed in any of these 12 cases. From the available data it would appear that a hemangioma of the liver grows very slowly. So far as we have been able to determine, there is no evidence that metastasis ever has occurred in a case of hemangioma of the liver.

Summary

This report is based on 27 cases of hemangioma of the liver in which laparotomy was performed at the Mayo Clinic in a period of 26 years.

In 7 (group 1) of these cases operation was performed primarily because of the hepatic tumor, and complete removal of the tumor was accomplished in 3 (group 1a) of these cases. In 20 cases (group 2) hemangiomas ranging in size from 0.5 to 4.0 mm. in diameter were discovered incidentally in the course of operation for some other condition. The tumor was removed in 5 (group 2a) of these cases.

From a review of the entire series of 27 cases it is apparent that a hemangioma of the liver is a slow-growing, nonmetastasizing tumor which causes symptoms usually only by pressure on surrounding structures. Small hemangiomas discovered incidentally at operation seldom, if ever, grow to significant size during a period of five to 15 years. If a hemangioma of the liver is encountered surgically, it is best treated by complete excision if such a procedure is not too hazardous. No attempt should be made to aspirate such a lesion or to remove a specimen for biopsy. If either of these procedures is attempted, it may be difficult to control the resultant hemorrhage. There is evidence that hemangiomas of the liver are moderately radiosensitive.

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PROGRESS IN THE TREATMENT OF BLOOD DYSCRASIAS

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A number of therapeutic agents for the treatment of various blood dyscrasias have been discovered in recent years, and many of these have now been in use for a long enough period of time and by a large enough group of investigators so that we are in a position to evaluate their usefulness and their limitations. We find that the pendulum has swung too far in the first wave of enthusiasm for some of these products, whereas others have found a definite and secure place in therapeutics.

Folic Acid

The first of these preparations is folic acid, the story of which is so well known that we may pass over it rather hurriedly. Folic (pteroylglutamic) acid is a member of the vitamin B complex which was discovered and its properties evaluated by several investigators with divergent approaches to the problem. In 1940 it was found that a specific extract from plant or animal substances was necessary in the culture media for the growth of certain bacteria.¹ The organism used in this test was the *Lactobacillus casei*, and the substance necessary for this organism's growth was obtained from yeast, liver and certain plants. It was first termed the *L. casei factor*, but, since it was found to be particularly abundant in spinach, it was later called *folic acid*.²

A separate investigation had shown that a macrocytic anemia characterized by a megaloblastic arrest in the bone marrow could be produced in monkeys by feeding them a restricted diet, and that this anemia could be cured by the administration of marmite, a yeast extract.^{3,4} The deficient substance was termed vitamin M, but it was soon found that the *L. casei factor* was likewise effective in controlling the experimental anemia produced in this way. It was also found that a deficient diet in chicks led to improper development and feathering, and that a substance termed vitamin B₁₂ which was present in middlings, wheat bran, alfalfa and yeast would correct the evidences of this deficiency.⁵ This substance, too, was found to have properties similar to the *L. casei factor*; hence all of these substances were shown to be closely related, if not identical.

Folic acid was obtained in crystalline form from liver in 1945, and from the knowledge of its chemical composition a compound was synthesized, pteroylglutamic acid, which had an action similar to the *L. casei factor* and to vitamin B₁₂. It had been observed that certain macrocytic anemias in the human responded to treatment with a yeast extract and with a crude liver extract,

and, since folic acid had been found to be closely allied or identical to vitamin M which was effective in the macrocytic anemia in monkeys, the material was tried in these cases of macrocytic anemia in humans.⁶ A prompt hematologic response ensued. It was subsequently found that folic acid was effective in those macrocytic anemias characterized by a megaloblastic bone marrow, such as nutritional macrocytic anemia, tropical macrocytic anemia, the macrocytic anemia of sprue, pellagra and Addisonian pernicious anemia.⁷ The exact mode of action of folic (pteroylglutamic) acid has not as yet been established, although it has a profound effect on hematopoiesis and is apparently necessary for proper maturation of the erythrocytes. Folic acid occurs in a conjugated form in certain foodstuffs, and it has been postulated that certain individuals are unable to utilize the material in this conjugated state, so that free folic acid is not liberated in the body to properly control hematopoiesis.

The therapeutic role of folic acid has become more clearly defined, and the first wave of enthusiasm has subsided. It was first thought to be the answer to our problem in the control of pernicious anemia and related macrocytic anemias since 20 mg. of folic acid per day given by mouth would produce a rapid increase in the hemoglobin level and erythrocyte count. It was further shown that normal hemoglobin and erythrocyte levels could be maintained, at least in a majority of these patients, over a prolonged period of time. However, it soon became apparent that, although the hematologic features of pernicious anemia could be kept under control, the folic acid did not control the neurologic manifestations of this disease.⁸ In fact, in many cases the subacute combined sclerosis of the cord seemed to appear or to progress more rapidly than would be expected even in the untreated patient. For this reason it appears that folic acid, rather than being the solution to our problem, is definitely contraindicated in pernicious anemia as it allows, or perhaps encourages, the progression of subacute combined sclerosis of the cord.⁹

It has not been proved that folic acid is harmful to normal nerve tissue,¹⁰ and consequently there are no contraindications to its use in other types of macrocytic anemia. Perhaps its greatest field of usefulness is in the treatment of tropical and nontropical sprue, in which disease it not only corrects the anemia but controls the gastrointestinal manifestations as well.¹¹ No neurologic complications have developed in the many hundreds of such cases treated, and the results in most instances are gratifying, although it sometimes fails to control the manifestations of non-

tropical sprue.¹² Folic acid is of value in tropical macrocytic anemia, macrocytic (pernicious) anemia of pregnancy, nutritional macrocytic anemia and the macrocytic anemia which sometimes accompanies pellagra. It should not be used in true pernicious anemia.

Vitamin B₁₂

The latest development in the treatment of pernicious anemia is the use of vitamin B₁₂, which was obtained in crystalline form from liver extract.¹³ Its chemical structure has not been ascertained, or at least not released, up to the present time. This material has been shown to be effective in the treatment of pernicious anemia not only in producing a prompt hematologic response but in controlling the neurologic manifestations as well.¹⁴ It is effective in minute doses, a single injection of 25 micrograms producing a satisfactory reticulocytosis and an increase in the hemoglobin and erythrocyte levels lasting for at least three to four weeks. It appears that 1 microgram is equivalent to approximately 1 unit of liver extract, so this material may represent the active principle of liver extract.

Vitamin B₁₂, surprisingly, is effective when given orally, and when administered by mouth its action is enhanced by the administration of normal gastric juice.¹⁵ This observation suggests that the active principle of liver extract and the extrinsic factor of Castle may be the same, and that the intrinsic factor is some unidentified substance which merely aids in its absorption. A complete re-evaluation of our present concept of the pathogenesis of pernicious anemia may be necessary in view of the information gained from the work with this material.

We have observed maximal reticulocyte responses with this material and a progressive increase in the hemoglobin level and erythrocyte count, which persisted for as long as four weeks with a single injection of 25 micrograms. A concomitant improvement in the neurologic manifestations was also noted. What future developments and progress will result from investigations with this substance remain to be seen, as it has not yet been fully established that this is actually the active principle of liver extract. Since it is derived from liver one cannot expect results beyond those obtainable with adequate amounts of the parent substance. At the present time vitamin B₁₂ is the most potent antipernicious principle available.

Nitrogen Mustard

The results obtained with the use of nitrogen mustards in the treatment of certain types of hematopoietic disease have been encouraging, with the greatest benefit being derived in Hodgkin's

disease, lymphosarcoma and related diseases.^{16, 17} They have also been used with satisfactory results in other types of malignancies. The effects of nitrogen mustard are transient and palliative even in those cases showing the most spectacular results. They are not curative but only suppress and retard the progression of the disease. It has also been noted that some cases which have become resistant to x-ray therapy after repeated treatments regain to some degree their x-ray sensitivity after the administration of nitrogen mustard.

Methyl-bis (B-chloroethyl) amine hydrochloride has given the best results and is the preparation which we have been using. This material is administered intravenously in a dosage of 0.1 mg. per Kg. of body weight on each of four to six successive days. A subsequent course may be given after an interval of about four weeks, the repetition depending upon the hematologic findings.

The toxic effects of the nitrogen mustards consist of (1) a severe local inflammatory reaction if the material escapes into the tissues at the site of injection, (2) varying degrees of nausea and vomiting, occurring one to eight hours after the injection and lasting from three to 24 hours, associated with anorexia, weight loss, weakness and headache, and (3) damage to the blood-forming organs. The alterations in the peripheral blood which may result are: (1) Moderate to severe leukopenia may persist for a month or more. The first change in the peripheral blood is a lymphopenia, but this is soon followed by a neutropenia. (2) A normocytic anemia not infrequently develops about the third week after treatment. (3) Bleeding tendencies are rare but may occur when thrombocytopenia develops.

An evaluation of the therapeutic effects of nitrogen mustards according to the first official statement¹⁸ are: (1) They are not a cure for such neoplastic diseases as have been studied. (2) The nitrogen mustards in large enough doses are injurious to many types of tissue; they appear to exert their greatest effect on rapidly growing tissue, presumably either normal or neoplastic. (3) Their predominant toxicologic effect is damage to normal hemopoietic function. The extent of this injury is the limiting factor in determining the amount that can be given to an individual. In some cases the injury to the hemopoietic system exceeds the beneficial effect on the tumor. (4) The tumor regressions induced by these compounds even with maximum dosages are temporary, rarely extending beyond several months. (5) The effects of the nitrogen mustards are in many respects similar to those of x-ray, but it

should be noted that the great advantage of radiation therapy is that it can be given locally.

The greatest usefulness of nitrogen mustard in our hands has been in those patients with Hodgkin's disease who are febrile, losing weight and having profound subjective manifestations without massive glandular involvement. Nitrogen mustard has a definite place in the treatment of this type of patient and has become almost indispensable in the proper handling of these cases. It does not and cannot replace x-ray therapy in the treatment of lymphomas but does have definite advantages in certain phases of the disease. We have produced a remarkable subsidence of tumor masses in some instances of lymphosarcoma, but as a rule it is less effective than x-ray therapy when large masses of tumor tissue are to be treated.

A few other types of rapidly progressing neoplasms have responded dramatically. We have used it mostly in patients with far advanced lesions in which neither surgery nor x-ray therapy were applicable, so that it has not, in this sense, been given a fair trial. Our results in carcinoma of the bronchus, for example, have not been as promising as those reported by other investigators, but in some cases with other types of rapidly growing neoplastic process the results are truly remarkable. Some benefit may be expected in lymphocytic leukemia, but the results are not striking and have not been as satisfactory as those obtained by irradiation. It has even less effect on myelogenic leukemia. Although polycythemia vera may be treated satisfactorily by the nitrogen mustards, this form of therapy is rather drastic when equally good results may be obtained by other means.

Urethane

Experimental work has shown that ethyl phenylcarbamate and its derivatives exert a profound effect on the mitotic cycle of plant and animal cells. The suppressive action of urethane on the growth of certain bacteria, protozoa, and plant and animal tissues was noted, and as a result of these experimental findings the effects of this and related drugs were studied in certain forms of malignancies.¹⁹ During these investigations it was found that the drugs caused a fall in the leukocyte count, and they were therefore tried in the treatment of leukemia.²⁰ The palliative effect is great in many cases, although the results are temporary. There is in most cases a fall in the leukocyte count and a reduction in the number and percentage of immature cells in the blood stream, so that the differential pattern approaches normal.

The best results with this drug are obtained in

the treatment of myelogenous leukemia, and in many instances a profound drop in the leukocyte count has been obtained and the size of the enlarged liver and spleen has been markedly reduced.^{21, 22} With the hematologic improvement there has been a subsidence of the other manifestations of the disease, an increase in the hemoglobin level, a gain in weight and a complete clinical remission. The duration of the remission is variable, but certain cases of chronic myelogenous leukemia may be maintained in good condition over a prolonged period of time. In approximately one third of the cases of myelogenous leukemia in which we have used the drug a satisfactory, although temporary, response has been obtained. The results in lymphocytic leukemia have been less satisfactory, and we have encountered instances in which the leukocyte count has been brought to normal or even subnormal levels with no effect on the size of the nodes or on the general condition of the patient. Even in those whose response is satisfactory the results are no better than are obtained from x-ray therapy. It has the advantage of being a preparation which can be taken by mouth, and the doses range from 1 to 9 gm. per day. In many instances the gastric irritation is so great or the sedative effect so marked that the drug must be discontinued. The effects of other members of the carbamate group have not been thoroughly investigated, and it is possible that some related compound may be discovered which is even more effective.

Present investigations with urethane and the related carbamates are concerned with the effects of closely related compounds with the hope that one may be found with less toxic reactions but with similar or more profound effects on cell mitosis. Clinical investigations are also under way to find the optimum dosage of urethane and its method of administration. Some are using 3 gm. three times a day and reporting good results in certain patients in whom this dosage can be tolerated, while others are administering $\frac{1}{2}$ gm. two or three times a day over a long period of time to patients with chronic leukemia. Its use as an adjunct to irradiation therapy is also under investigation.

Stilbamidine

Stilbamidine has been widely used in the treatment of multiple myeloma following the promising reports on this drug by Snapper.²³ Stilbamidine or pentamidine are given in conjunction with a diet low in animal protein, and the original reports indicated a marked or complete relief of pain in most of these cases. It was also noted that degenerative changes were found in the myeloma cells in the bone marrow following this form

of therapy. Snapper felt that these drugs interfered with the metabolism of the myeloma cells and arrested their proliferation.^{24, 25} Precipitates of ribose nucleic acid, appearing as basophilic granulations in the cytoplasm of the cells, were encountered and interpreted as manifestation of changes in the nucleoprotein of the myeloma cells. Although stilbamidine is not effective in all cases, the recent interest in multiple myeloma that this treatment has aroused has led to many excellent studies of various phases of the disease.^{26, 27, 28}

We have used stilbamidine in a number of patients with multiple myeloma, and in some it has apparently relieved the pain from which they were previously suffering. It has not been effective in all cases, and so far we have failed to find morphologic changes in the myeloma cells, nor have we noted any regression in the roentgenologic appearance of the bone lesions. Stilbamidine is given intravenously in doses of 150 mg. for 15 injections at 24 or 48 hour intervals. We have not been entirely convinced of the efficacy of this drug, as it is difficult to evaluate the apparent relief of pain under these circumstances. Rather severe reactions to the drug are sometimes encountered following its administration.

Aminopterin

The use of aminopterin (4-aminopteroylglutamic acid) and other folic acid antagonists in the treatment of acute leukemias of children has produced temporary remissions and has raised some hope that the disease may ultimately be controlled. It had been noted that folic acid seemed to accelerate the course and progression of leukemia, and as a result of this observation the antagonists of folic acid were tried in the treatment of this disease. A number of these antagonists have been prepared, but the one which has been most widely used is aminopterin. This differs from folic acid only in the substitution of an NH_2 group for an OH group. This minor variation in the chemical structure produces a profound change in the action of the drug.

Faber found that injections of aminopterin given to a series of 16 cases of acute and subacute leukemia in children produced a remission in 10 of the patients, the remissions lasting for as long as three months.²⁹ During the remission there was a marked improvement both subjectively and objectively, and this was accompanied by a disappearance of immature leukocytes from the blood stream and an increase in the erythrocyte count and hemoglobin level. The bone marrow approached normal in its cellular content. The results which have been obtained in adults have not been as satisfactory as those obtained in children, although Dameshek has reported that

remissions were produced in 4 of 16 cases treated.³⁰

Aminopterin is administered in a dose of 0.5 to 1 mg. per day, but as it is an exceedingly toxic drug it must be used with caution.^{31, 32} Stomatitis and ulceration of the mucous membrane of the mouth and pharynx are the most common of the toxic manifestations, but atrophic changes in the intestinal mucosa with diarrhea may also occur. Aplasia of the bone marrow may develop with depletion of all of the cellular elements. Hemorrhage, either as a massive loss of blood or as a continuous and uncontrollable oozing, occurs as one of the serious complications, and one which may prove fatal. The hemorrhage is most apt to occur when the bone marrow becomes aplastic, but the bleeding may be noted before this stage of marrow depression is reached.

The mechanism whereby folic acid antagonists exert their influence is not clear, but it is presumed that the material modifies the enzyme system of the primitive cell in such a way as to prevent the metabolism of some growth factor. The toxicity of these compounds and the temporary nature of the remissions limit these drugs to a research basis at the present time.

Radiophosphorus

Of the radioactive materials which have been used in the treatment of blood dyscrasias, radiophosphorus, P^{32} , has been the most satisfactory because of its suitable half life of 14.3 days, because it gives off only beta rays which have a short penetrating power and because rapidly growing malignant cells seem to have a selective avidity for phosphorus. The P^{32} is utilized in the body in the same manner that ordinary phosphorus is metabolized, and high concentrations are found in the bones as well as in the liver, spleen and lymph nodes. The material travels throughout the body so that whole body irradiation is obtained, which in the case of leukemia would seem to be the ideal method.

Chronic myelogenic leukemia seems to respond better to treatment with radiophosphorus than do the other types of leukemia, and a satisfactory remission of variable duration can be produced in a majority of these cases. The material is of no value in the treatment of the acute phase of the disease and is perhaps most applicable in those chronic forms in which the splenomegaly is not marked. Radiophosphorus affects the maturation of the erythrocytic series of cells as well as the leukocytes so that the anemia, which is a part of the disease, is accentuated. Transfusions are consequently required from time to time to supplement the radiophosphorus. Lymphocytic leukemia does not respond to this form of

therapy as well as does the myelogenic type, although some benefit may be derived.

Polycythemia vera is the disease which is most successfully treated by radiophosphorus.^{33, 34} Isotonic solutions of dibasic sodium phosphate prepared with radioactive phosphorus may be given intravenously and is more effective when given by this route than by oral administration. In treating polycythemia vera an initial dose of 3.5 to 4 millicuries may be given and repeated after a 90 day period if the erythrocyte count remains above six million. Subsequent injections of the material depend upon the rapidity of fall in the erythrocyte count, the hemoglobin level and the hematocrit. Since P^{32} does not injure the circulating cells but only depresses the formation of new cells, the drop in the count is delayed and becomes evident only after six to eight weeks. Because of this delayed action it may be necessary or advisable to start treatment with venesection, particularly if the symptoms and manifestations are severe. The progressive fall in the erythrocyte count is paralleled by a fall in the hemoglobin and hematocrit. There is also a fall in the leukocyte count and platelet count—sometimes to subnormal levels, and this may be a limiting factor in the use of radiophosphorus in some cases. With the drop in the erythrocyte count there is subjective improvement and a reduction in the size of the spleen, so in many patients the results of this therapy are excellent.

The dangers from the use of radiophosphorus are the development of aplasia of the marrow and the possibility of conversion of polycythemia to a leukemic state. It is known that in the natural course of the disease some cases of polycythemia vera terminate as myelogenic leukemia. Such a transition may occur when radiophosphorus is used, and it is believed by some that such conversion is more frequent when the disease is treated in this manner.

Although polycythemia vera may be adequately treated in this manner, the use of radiophosphorus has little if any advantage over more conventional therapy such as venesection combined with irradiation of the hematopoietic marrow, and it seems doubtful if this newer therapy will replace it. Irradiation appears to be preferable to radiophosphorus in both myelogenic and lymphocytic leukemia.

Conclusions

This brief summary of some of the newer methods which have been developed for the treatment of certain blood dyscrasias is not intended to be a complete review of all of the recent advances. The discussion has been confined to the more widely used and most publicized procedures,

and an attempt made to summarize the present status and opinions concerning their efficacy.

Discussion

Robert N. Larimer, M.D., Sioux City: Dr. Fowler's excellent paper leaves little for discussion. It is a fine review of the present status of the therapeutic agents which he has mentioned. This discussion can be no more than a statement of the use of these agents in general practice.

The rather rapid rise and fall of folic acid in the use of pernicious anemia was disappointing. When the product first became available, it seemed that the treatment of Addison's anemia might have become easy and relatively cheap for the patient. As has been emphasized, this hope was but short lived and properly so. The control of the anemia itself has never been difficult since the introduction of liver therapy, but the neurologic complications even with liver have always been feared, and with folic acid there is apparently little protection against, and no repair of, the spinal cord change. It is this fear that should make the physician shun the material.

It may well be that the hopes of folic acid therapy will be fulfilled by the recently developed vitamin B₁₂. This substance is now in the process of being released for commercial distribution. Apparently it will not be too expensive; it can be an oral preparation; doses may be spaced even further apart than hypodermic injections of liver; and cord degeneration is controlled. Vitamin B₁₂ not only produces remissions in pernicious anemia, but it will control the anemia in tropical and nontropical sprue, nutritional anemias and others.

My knowledge of the various substances used for the treatment of leukemia has been gained largely by reading or observing a few personal cases which were treated elsewhere. It would seem that the general practitioner's attitude should include elements of hopeful skepticism and considerable humility when considering any of the agents which Dr. Fowler has discussed. As yet the etiology of any of the leukemias and malignant lymphomata is speculative. While great efforts have been made to prove that infection might be concerned, especially in the tumor group, most hematologists and physicians in general look upon the whole series as being a type of malignancy. Certainly the day of hope for control of malignancy is not yet at hand. We can, however, be hopeful and optimistic that the various materials which have been mentioned may modify and in certain cases even produce remissions. The percentage of cases which may respond is still relatively low, but the development of a number of things which may actually change the course of the malignant type of disease is cause for hopeful thinking. As Dr. Fowler mentions, it is apparently true that nitrogen mustards may reduce radio resistance in lymphomatous masses in which treatment is gradually failing, and, as such, some one of the nitrogen mustards will have an important and definite place in many cases. Physicians, however, should be skeptical in thinking that these agents are actu-

ally going to change the ultimate course of malignancy, and this attitude may protect the medical group when lay articles advising the use of these substances are brought to them by a despairing family.

I believe all practicing physicians should approach the use of any of these substances, especially isotopes, with a great deal of humility. Isotopes have proved fatal to a rather high percentage of cases even in the hands of the expert, and, again, the percentage of improvement and palliation has been rather disappointing. In effect, isotope therapy represents no more than a form of radiation therapy other than x-ray and radium, and certainly the effect of a dose of an injected isotope is more difficult to determine and less possible of control than is radiation therapy. Most men in ordinary practice are quite willing to admit their limitations of knowledge regarding massive x-ray therapy, and they should be willing to admit their same limitations with the newer substance.

At present I would feel that treatment of any case of leukemia with any of these substances should be the province of the specially trained hematologist. His experience at best is limited, but his knowledge and ability to observe and to follow the patient is much greater than the physician who sees and treats only an occasional case of blood dyscrasia. Later on, standardization of methods will be developed, and more general use of the materials will occur. It is only by such an approach that any progress may be made and public fear of the use of these substances may be avoided.

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warned that when laparotomy is performed for this lesion it is well to look for other invaginations before closing the abdomen. In 1893 Ludwig Hektoen³ wrote of a patient with four intussusceptions and commented that spontaneous termination may result through necrosis. Elimination of intussusception may take place in 40 per cent of all cases by this process. Hatfield⁴ (1897) stated that his case, a 4½ year old boy, recovered from a colocolic and ileocecal type without resection at operation. Baron's⁵ patient had five distinct intussusceptions in 25 cm. of jejunum. Each lesion was 1.3 cm. in length. In 1934 Welsh and

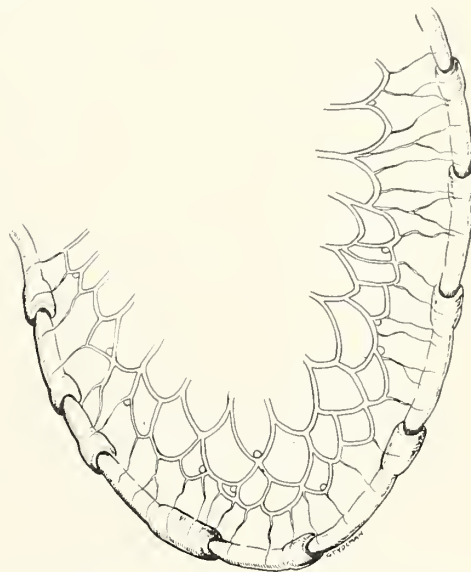


Fig. 1. Diagrammatic illustration of unusual intussusception of jejunum and ileum. Small intussusceptions measured about 3.5 to 4 cm. Larger middle lesion measured 6 to 7 cm.

MULTIPLE INTUSSUSCEPTION

Review of the Literature and Report of a Case

Merle J. Brown, M.D., and

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The subject of intussusception in childhood has held the interest of the pediatrician and surgeon for many years. Multiple intussusception and its cause has created even greater interest and speculation, as indicated by the numerous published reports of single cases. The case reported herein should be of interest because of its rare occurrence.

Longstreth,¹ in 1874, reported a patient with eight intussusceptions demonstrated at autopsy complicating an amputation of the forearm for an injury. These intussusceptions occurred in the upper portion of the small bowel, following diarrhea. The largest point of telescoping was 3 inches in length, while the shortest was about 1 inch. D'Arcy Power² (1886) presented a case in London in which two invaginations were present. One of these involved the ileocecal valve and measured 2 inches in length, while a second one occurred in the colon, being colocolic in type and larger (3 inches in length) than the first. He

Coyne⁶ reported a double intussusception in a 7 months old female with recovery. Ladd and Gross⁷ in the same year found 3 out of 372 cases, reported from the Boston Children's Hospital, with multiple invaginations. Gill's⁸ (1938) patient, a 19 months old female, had six or seven distinct ileoileal lesions from which she recovered, while Dwan and Wyatt⁹ wrote of their 9 year old male patient as having a double infolding of the splenic flexure into the rectosigmoid and recovering from it. Badertscher's¹⁰ patient (1939) developed a triple intussusception of the ileum following a trauma sustained when two automobile truck wheels ran over him. The lesions were 2 to 2.5 cm. long and 20 cm. apart. Kahle¹¹ (1941) in analyzing 151 cases stated that multiple intussusception was not frequent, but he did find 3 cases in his series. One of these cases had seven invaginations, one of which involved the ileocecal valve, while 6 were enteric above the valve. Another case had three ileoileal infoldings, while the third case had two lesions, a colo-

colic and an ileocecal. In 1944 Ficarra¹² reported a double intussusception in a 23 months old colored male in which the ileum telescoped into the cecum, with the cecum in turn invaginating into the ascending colon to the hepatic flexure.

Etiology

Ladd and Gross¹³ found a mechanical cause for intussusception in 23 out of 484 cases. They stated that the etiologic agent in 90 to 95 per cent of childhood intussusceptions is still unknown. They have considered that acute enteritis and allergic states, with the accompanying disturbed peristalsis, may be the cause in some cases where mechanical forces are not present. Gray¹⁴ theorized that irregular action of the muscular wall of the intestine produced by some slight congestion or edema, thus simulating a foreign body which the bowel attempts to pass, is the only theory explaining ileal formations. Welsh and Coyne stated that in the small bowel the jejunum is involved four times as frequently as the ileum, but they did not give any reason for this difference. Perrin and Lindsay¹⁵ in their study of 400 cases theorized, in addition to other explanations, that paralytic conditions of the gut allowing prolapse of one portion into another explained some cases. Hektoen described agonal invaginations as being short, ascending and multiple and involving the ileum. McIver¹⁶ noted that the agonal types found at autopsy are associated with violent peristalsis accompanying disease of the central nervous system. This author noted also a seasonal incidence of intussusception. The greatest incidence occurs in February and November, while the least number occurs in September and October.

Symptomatology and Signs

The symptoms occurring in multiple intussusception are not essentially different from the recurrent colicky abdominal pain, vomiting, crying, dehydration and shock accompanying the single intussusceptions. Bloody stools also make their appearance just as in the usual case. Dance's sign, indicated by an empty right lower abdomen when the cecum invaginates the colon above the hepatic flexure, may be present. A palpable mass may be present in the right lower abdomen when the ileum projects through the ileocecal valve. Tenderness will also accompany the lesion. Rigidity of the abdominal wall is not expected until inflammatory changes occur some hours after the onset.

Case Report

C.L., white female, aged 3 years, was brought to the hospital because of severe colicky pain and extreme shock. According to her family doctor,

she had been having recurrent abdominal pain for several months following the intake of food. She had been taking atropine 1/500 grain with phenobarbital. Until the time of the present illness these drugs had apparently afforded relief. At 2:00 p.m. on the day of admission the patient developed severe persistent pain in the abdomen accompanied by profound shock. Loss of the child's life was feared, but the pediatrician administered Ringer's solution and plasma, causing a gradual regaining of consciousness and recovery from the shock. There remained a persistent abdominal pain, generalized tenderness and absence of peristaltic sounds. There was complete loss of appetite, but little vomiting occurred in this well nourished child. The mucous membranes were dusky, and the pulse rate was between 140 and 160 per minute but difficult to count because of the low tension of shock. The abdomen had a doughy feel, and a few flecks of blood were noted on rectal examination. The child's temperature was 102 F. after the shock diminished.

An exploratory laparotomy under drop ether anesthesia was performed as an emergency procedure through a 3 to 4 inch right transrectus incision. The cecum was located first, and its valve was examined but showed no abnormalities. The small intestine was examined from the ileocecal valve to the ligament of Treitz. The ileum, 6 to 8 inches proximal to the ileocecal valve, showed a moderate dilatation. As the ileum and jejunum were explored nine areas of intussusception were noted, each separated from the succeeding one proximally by 6 to 8 inches of collapsed bowel. These invaginations were disengaged while the bowel was examined further for circulatory changes. Resection was not necessary. The large bowel contained inspissated fecal material but no intussusceptions. The appendix was normal and was not resected.

The largest intussusception, near the middle of the series, measured 6 to 7 cm., while the smaller ones were 3.5 to 4 cm. in length. The mesenteric lymph nodes were enlarged six to eight times normal size and were rubbery to palpation.

As the inspection was made it was noted that the small bowel remained extremely spastic and that intussusception tended to recur with the gut being outside the peritoneal cavity. Also, it was noted that the entire peritoneal cavity was dry, and the serosa of the gut was dry and sticky. There was a dusky, reddish color to the ileum and jejunum, but the intestinal sheen was preserved.

When 300 cc. of warm normal saline was placed on the bowel and in the cavity, the duskiness,

stickiness and spasticity disappeared immediately. The tendency to recurrence of the intussusception no longer was evident, and normal slipperiness of the bowel returned.

The abdomen was closed in layers, and the patient recovered without complications.

Discussion

This case is rather remarkable in that a search of the literature did not reveal any other reported cases in which there were nine distinct intussusceptions. The nearest to this number was the case of Longstreth in which eight intussusceptions were demonstrated at autopsy. The authors do not believe that these lesions were agonal, as described by Heketon, since they were not considered short nor ascending even though they involved the ileum and jejunum.

The causative factor in this case is considered intrinsic and involves gross disturbance of the blood chemistry. The nature of this alteration of chemistry is not known from the information at hand. The dryness, stickiness and spasticity were factors which caused the tendency of the intussusceptions to recur when they were manually reduced. These factors may have been related to the profound shock at the onset. However, the shock was secondary to the onset of pain at the beginning of the patient's illness, so it must have been the result, rather than the cause, of the intussusceptions. The largest invagination may have been the primary one, whereas the smaller lesions may have developed secondary to the chemistry changes involved in the shock. The shock was controlled at the time the exploratory was performed, yet the tendency to recurrence of the intussusceptions persisted and was observed. This situation would negate any argument that the smaller lesions were agonal and resulted from the shock syndrome.

Dehydration may well explain the viscosity of the serosa of the bowel, since the pouring of sterile normal saline caused an immediate color change and restored the bowel's normal slipperiness. What part the sodium or chloride ions of the saline may have played in this transformation is undetermined. It is hardly possible for peritoneal absorption to occur so rapidly as to bring about an immediate blood chemistry change by either ion and to account for the sudden change in the bowel appearance.

The same factors which produced the intestinal cramps months prior to the onset of the intussusception were undoubtedly responsible for it. The authors feel that dehydration and chemical imbalance are representative of the factors at work in the etiology of this case.

Summary and Conclusions

1. A review of the literature to 1874 failed to show any reported case of multiple intussusception equal to, or greater than, the case reported herein.

2. Multiple intussusception is an infrequent condition of the intestinal tract in children.

3. The great bulk of either single or multiple intussusceptions in children cannot be explained on a mechanical basis.

4. The symptoms and signs of multiple intussusception are not appreciably different than those for single lesions.

5. A case of multiple intussusception is reported in which there were nine distinct intussusceptions involving the ileum and jejunum. The intestinal serosa of the involved loops was dusky, sticky and spastic. The bowel appearance was normal after 300 cc. of warm saline was placed in the peritoneal cavity. The dusky appearance vanished, the serosa became normally slippery, and the spasticity was no longer evident.

6. The factors responsible for the intussusceptions in this reported case are intrinsic and may involve chemical imbalance.

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HEART DISEASE MOTION PICTURE

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RETROLENTAL FIBROPLASIA

Arthur H. Downing, M.D., Des Moines

In 1948 Vail¹ suggested the name *Terry-Owens disease* for the peculiar symptom-complex known as *retrolental fibroplasia*, because the latter term is not descriptive of this particular condition. Tularemia conjunctivitis was the first ophthalmic disease described by an American, and Terry-Owens disease the second. Terry in a series of articles first described this interesting condition, and the work of William and Ella Owens in Baltimore has finally explained to almost everyone's satisfaction what the nature of the disease really is.

Previous to the time of Terry this condition was known only as pseudoglioma. Francis Lane,² in 1919, reported 2 cases of persistent posterior fibrovascular sheath of the lens with three eye balls examined microscopically, of which two were almost certainly retrolental fibroplasia as we now know it. Lent and Lyon³ reported several cases of persistence of the embryonal fibrovascular sheath of the crystalline lens in 1922. Gifford and Latta⁴ reported 3 cases of pseudoglioma and remains of the tunica vasculosa lentis in 1923, and one of their 3 cases was certainly retrolental fibroplasia.

Lloyd⁵ reported several cases of pseudoglioma with special reference to the type associated with the remains of tunica vasculosa lentis, and he named six conditions besides glioma which give the so-called amaurotic cat's-eye of Beer. These are: (1) remains of the tunica vasculosa lentis, (2) retinal detachment, (3) cyclitic membrane, (4) tuberculous choroiditis, (5) metastatic inflammation, and (6) Coats' disease. To this now must be added a seventh, retrolental fibroplasia. In Floyd's series of 24 eyes enucleated for supposed glioma 7 showed pseudoglioma. The first description of retrolental fibroplasia as an entity was by Terry,⁶ in 1942, at which time he published a brief case report, "Extreme Prematurity and Fibroplastic Overgrowth of Persistent Vascular Sheath Behind Each Crystalline Lens." This original case of Terry's was that of a 6 month old infant, one of two premature twins, with a grayish white membrane behind each lens. Pupillary responses were normal, and a searching nystagmus was present. Below the periphery in each eye a fundus reflex was obtained with the pupil widely dilated, and thin dentate processes could be seen attached to the ciliary processes. This membrane appeared to be what is now erroneously called a *persistent tunica vasculosa lentis*. His original clinical notes

stated that he had seen 3 similar cases. He had not at that time determined whether this abnormal tissue was a persistence of the entire vascular structure of the fetal vitreous or a fibroplastic overgrowth of the persistent tunica vasculosa lentis, but he did state that he thought this abnormal membrane grew after birth, as it had no exact counterpart in the normal fetal development of the eye.

Terry,⁷ in 1943, reported a series of 7 cases and discussed the clinical aspects of this condition. A condition resembling what was similar to persistent tunica vasculosa lentis was seen in 7 infants, all of whom had been born about eight weeks premature. Terry thought the membrane developed after birth, as in no case was it noted before 4 months of age.

Terry,⁸ in 1942, published some studies on the development and regression of the hyaloid artery and the tunica vasculosa lentis, which is, however, of no significance insofar as this disease is concerned, since the Owens' showed this disease is not related to the fetal tunica vasculosa lentis. The causes of this disease were extensively investigated by Terry.⁹ Bacilluria, bleeding, sulfonamides, barbiturates, birth hemorrhages, vitamin K deficiency and lack of regulation of temperature, hormones, nutrient and blood, etc., were all felt not to be the cause. A further study of this and allied matters was continued in an article published in 1945.¹⁰ By this time Terry had collected 105 cases. Terry's theory as to the cause of the disease was ingenious; he thought it was probable that premature pupillary responses to light could embarrass the venous drainage of the tunica vasculosa lentis by kinking the vessels and thus cause a passive congestion and persistence of these vessels with fibrosis. This abnormal pupillary activity due to premature exposure to light might also tend to open the meshwork of the chamber angle. Aqueous is formed in the eye long before the Schlemm's canal is formed to carry it away. 'This produces a so-called physiologic glaucoma, which is probably responsible for forming the anterior chamber and increasing the size of the globe. Lack of this would result in a shallow anterior chamber and microphthalmus. Lack of aqueous would result in poor nutrition of the lens and cornea, with formation of cataracts and corneal opacities.

In another article, in 1945, Terry¹¹ was still of the opinion that the precocious activity of the pupil was the cause of the disease and in an interesting analysis stated that this disease added at least 600 blind persons to the population every year. These figures were arrived at in the following manner: There are approximately 125,000

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prematures born each year of which 23,000 are very premature. At the rate of 43 per cent, 11,000 would survive, of which over 1,000 would develop fibroplasia at the rate of 12 per cent. Arbitrarily Terry took 40 per cent off, leaving at least 600 a year who would develop this condition. In Terry's last article¹² he stated that no treatment was of any avail.

Reese and Payne,¹³ who published an article in 1946 on this condition, had a rather different idea about the cause. They collected 50 cases, some of which were premature and some of which were full term, and they did not feel that the condition was different in prematures than in full term babies but that the disease was due to persistence of the primary vitreous. Of their group of 50 only 5 seem now to be true retrolental fibroplasia. These were eyes where there was a retinal detachment with much fibrous tissue, and this group they classified as a sub-group where perhaps the secondary vitreous failed to form. Reese and Payne described the frequent occurrence of hemangiomas of the skin with this particular condition.

Krause,¹⁴ in 1946, published an article on "Congenital Encephalo-Ophthalmic Dysplasia," a disease characterized by retinal and cerebral hypoplasia. The ocular disease consisted of microphthalmus, malformation of the retina, choroid and optic nerve, retinal dysplasia, retinal membranes, detachment of the retina, retinal atrophy, hemorrhage, anterior and posterior synechiae, cyclitic membranes, etc. The cerebral manifestations were those of hydrocephalus, microcephalus, etc. He stated that the disease called *retrolental fibroplasia* and the disease where a persistent hyaloid artery was present are different. This is in line with the later work of the Owens'. They do have, however, some signs in common such as a grayish or grayish yellow or white reflex, shallow anterior chamber, posterior synechiae and microphthalmus. Retrolental fibroplasia, he stated, was bilateral in nearly all premature births, and persistence of the retrolental membrane was usually unilateral. He reported 18 cases of fibroplasia with mental deficiency. Of these, 13 were premature and 8 were full term. As far as the cause is concerned, he stated it was not hereditary or familial; it was not environmental; social factors seemed to play no part; age of the parents had no effect on it; there was no cause due to time of conception or birth; apparently there was no connection with the number of pregnancies, but the disease was commoner in multiple births, which would only be expected due to commoner prematurity. The ratio to births, as reported at the Chicago Lying-In Hospital, was about 1 to 4,000. It is

not a maternal disease, and he postulated the possibility of some virus as a cause, such as the persistence of the retrolental membrane seen in maternal rubella.

Ingalls,^{15, 16} in two articles in 1948, discussed the epidemiologic implications of congenital encephalo-ophthalmic dysplasia, the term used by Krause. He stated that the disease resulted from systemic insult to the fetus shortly after the second trimester of fetal life. He found no particular sex ratio, and the maternal age was not an effective factor, but there was placental disease in 28 per cent and cyanosis was present at birth in 6 of his 27 cases. He also found malformation of the cerebrum and hemangiomas of the skin. King¹⁷ in a book concerning the blind preschool child reviewed the picture as Terry saw it. He stated that some of the mothers were certain the baby was able to see early in life but not later on, which would be confirmatory evidence that the disease occurred following birth. His conclusion was that this disease is, as far as we know, not preventable, that it will occur in spite of everything that we know now in about 12 per cent of prematures and that it is a great problem from a social standpoint. Dunphy¹⁸ in an article published in 1946 gives an excellent review of the whole picture up to that time.

About the last word on this disease has recently been published by W. C. and E. W. Owens¹⁹ of Baltimore. They stated that the main difficulty in the study of this disease was that the early stages were not observed and that it was not known whether the disease was present at the time of birth or whether it developed after birth. The Owens' between July 1945 and June 1947 examined all the premature infants in the University Hospitals monthly up to the age of 6 months and bi-monthly to the age of 1 year. There were 214 infants in this series, of which 40 weighed less than 3 pounds and 174 weighed less than 4½ pounds. None of these infants had retrolental fibroplasia at the time of birth. One hundred eleven were followed for six months, and of those under 3 pounds in weight 4 developed retrolental fibroplasia, a rate of 12½ per cent. Of the 78 whose weight was between 3 and 4½ pounds there was only one case, an incidence of 1.3 per cent. Thus, prematurity is of marked importance in the etiology of this disease, and the more marked the prematurity the greater the incidence.

They saw a total of 9 cases of retrolental fibroplasia develop. Some of these they followed from normal appearance of the eye and some from an intermediate stage. Of these, 5, as stated be-

fore, were picked up in the study of the 214 premature who were routinely examined. Of these, 4 were severe. In one case the condition did regress. The general course of all these was somewhat as follows: Gradually all the hyaloid remnants disappeared, and the fundi early were normal. The earliest abnormality was marked dilatation of the arteries and veins, which gradually increased, and the veins became much larger in size. A marked tortuosity of the arteries developed, and then a grayish yellow retinal elevation developed peripherally, more marked in the regions where there was a greater caliber of vessels. These areas were elevated 1 to 3 diopters and were pigmented. The disc became blurred, and new blood vessels developed in the region of the optic disc. From the anterior portion of the swollen retina a grey membrane formed behind the lens with many retinal blood vessels. A band of tissue formed in this membrane with a yellowish red reflex between. Finally a dense whitish membrane resulted, with ciliary processes extending outward from it and vessels radiating from the center like an umbrella. Later the anterior chamber became shallow, the cornea did not grow, and many posterior synechiae were seen. A complete retrolental membrane did not form in all the 9 cases. It became incomplete in a few, and between the areas there was perfectly normal retina. The time of onset was between 2 and 5 months of postnatal life, none developing after $5\frac{1}{2}$ months. They concluded that this disease is not a growth arrest or hypertrophy of any fetal structure. It is not a reopening of the hyaloid blood vessels, as Terry originally thought, nor a hypertrophy of the primary vitreous. The disease, as thus studied by the Owens', is much like angiomas of retinae and Coats' disease. The Owens' further examined the eyes of 120 premature infants born between 1935 and 1944 with a birth weight of $4\frac{1}{2}$ pounds or less and found no cases of retrolental fibroplasia. It would appear that there is a definite increase in the number of cases of retrolental fibroplasia seen now over what there was even as short a time as 10 years ago.

Kinsey and Baldrige,²⁰ who investigated the incidence of retrolental fibroplasia, noted that the incidence of this disease had increased lately and seemed to be commoner in some localities than in others. They did not believe that the recent greater incidence was due either to lack of diagnosis or to the greater survival rate of prematures. In Boston from 1938 to 1942 the incidence of retrolental fibroplasia was 0.95 per cent, and from 1943 to 1947 the incidence was 20.2 per cent. Geographically, the incidence varies

from the above figure of 20.2 per cent in Boston to 4.6 per cent in Providence, R. I., 2.5 per cent in Baltimore, 14.3 per cent in Hartford, Conn., 0.75 per cent in New York, 6.8 per cent in Cincinnati and 0 per cent in Denver and Birmingham, England. Kinsey and Baldrige also investigated the incidence of retrolental fibroplasia according to varying maternal and fetal factors, such as parity, age of mother, Rh type, type of delivery, anesthesia and analgesia, causes of prematurity, sex and presence of congenital abnormalities, none of which were thought to be of significance. They did feel that possibly the increased administration in recent years of water miscible vitamins and iron might in some way be related.

I have had in my private practice 7 cases of retrolental fibroplasia. In line with the rather capricious incidence of this disease I saw 5 of these between January and October 1948, and I have seen no new cases since that time.

Case 1.—B. H.: This boy was one of twins born 3 months premature, with a birth weight of 3 pounds. About six weeks after birth it was noticed that the left eye was smaller and did not seem to be quite normal. I first saw him at age 3 in November 1947, at which time the examination of the right eye showed a normal fundus seen with a minus 10 lens. Examination of the left eye showed clear media to the posterior surface of the lens, behind which was seen the folded retina forming an irregular white membrane. Direct examination revealed the retrolental membrane and the typical amaurotic cat's-eye appearance. The left eye was small, and the cornea measured only 8.5 mm. as compared to 11.5 mm. in the right eye. There was a definite mesodermal anomaly of the iris in the region of 2 o'clock in the left eye, with posterior synechiae and several dentate processes. Atropine refraction of the right eye when first seen was $-9.00 + 1.50 \times 105$. The child was seen again in October 1948, at which time a refraction under homatropine gave $-10.00 + 1.50 \times 100$, giving a 20/50 vision. In March 1949 the vision with the same lens was 20/40.

Case 2.—S. S.: This girl was born 3 months premature, with a birth weight of 2 pounds, 1 ounce. I first saw her in January 1948 at the age of 6 months because of a supposed congenital cataract of the right eye. Examination showed the right eye to be small with mesodermal atrophy of the iris. Fundus examination showed the typical appearance of retrolental fibroplasia, with the retina forming an irregular white membrane behind the lens, and there were several dentate processes seen peripherally. A slight red reflex

could be seen in one direction peripherally. Examination of the left eye was entirely normal. The child was seen again in April 1948 and in March 1949. The condition remained entirely unchanged throughout these visits, and refraction of the left eye under homatropine in March 1949 gave $-4.00 + 1.50 \times 90$. The child seems to fix a light well with the left eye.

Case 3.—M. R.: This girl was born $2\frac{1}{2}$ months premature and weighed only 2 pounds, 9 ounces. I first saw her in April 1948 when she was 5 months old. The child had apparently never been able to see or to follow light. External examination showed both eye balls to be small, the anterior chambers shallow, and the irises of a fetal blue color with a typical bilateral amaurotic cat's-eye appearance. Fundus examination under homatropine showed both retinas to be completely detached, forming a vascularized membrane behind the lens with a large central hemorrhage in the left eye. The anterior chamber was particularly shallow in this eye. However, the tension was not elevated. Retinoblastoma was seriously considered, and the baby was sent to Dr. Leinfelder at Iowa City for further examination. He was of the opinion that it was a retrolental fibroplasia because of the prematurity, the shallow anterior chamber, the atrophic iris with mesodermal anomalies and the detached retina lying posterior to the lens. This baby was also seen by another consultant who gave a similar opinion. There were many dentate processes seen in both peripheries, and a red fundus reflex was obtainable in several areas in the periphery. The other developments of this child have apparently been entirely normal. When last seen in March 1949 the right eye showed microcoria with anterior synechiae nasally, and a cataract was seen through the pinpoint pupil. The hemorrhage present in the left eye had disappeared.

Case 4.—G. M. S.: This baby was born 2 months premature weighing 3 pounds at birth. Examination when first seen in August 1948 at 4 months of age showed both eye balls to be small with the typical amaurotic cat's-eye appearance. Fundus examination under homatropine showed both retinas to be detached, the left completely, and the right incompletely, forming a vascularized membrane behind the lens. In the left eye the retina was detached from 4 to 10 o'clock. The superior nasal portion of the retina appeared to be entirely normal. This baby was referred to Dr. Leinfelder at Iowa City, and confirmation of the diagnosis was received. The baby was seen again in November 1948, at which time there was practically no change in the right eye, and there was a definite progression of the detachment in

the left eye. There was only a small area of red reflex obtainable in the superior nasal quadrant of the right eye. The left eye, which had the most involvement, showed a definite secondary glaucoma; the eyeball was stony hard, and the anterior chamber was almost completely absent. At this particular time the baby was in Blank Memorial Hospital because of acute suppurative otitis media. In five days of pilocarpine the tension in the left eye returned to normal, and the anterior chamber deepened somewhat. At the time I last saw the child on March 19, 1949, the tension in the right eye was still high, the anterior chamber had remained shallow and a dense white lens opacity had developed. He seemed to follow a light with the left eye.

Case 5.—J. N.: This baby was born seven weeks premature and weighed 4 pounds at the time of birth. The baby was first seen at the age of 7 months in October 1948. Examination of the left eye was entirely normal except for a definite myopia. Examination of the right eye showed the eyeball to be small with a shallow anterior chamber and mesodermal anomalies of the iris. The inferior third of the right eye showed the typical appearance of retrolental fibroplasia. There was a huge detachment which formed a vascularized membrane in the upper third behind the lens. The disc could be seen and appeared to be fairly normal except for a rather ruddy color. There was also a large area of atrophy nasally from the optic disc. I last saw this child March 10, 1949, at which time the area of fibroplasia in the right eye was much thinner and smaller. Both eyes were definitely myopic. In this case there was associated hemangioma of the skin.

Case 6.—J. F.: This baby was born after $6\frac{1}{2}$ months of gestation, with a birth weight of 3 pounds, $4\frac{1}{2}$ ounces. The baby was brought into my office in September 1948 at the age of 4 months to see if there was anything wrong with the eyes. There were no external abnormalities noted except for the rather small size of both eyeballs. The pupils dilated very poorly with homatropine due to innumerable posterior synechiae, and there was much pigment on both lens capsules, especially in the right eye. The fundus was fairly well seen in the right eye and appeared to be essentially normal. Examination of the left fundus showed an inferior detachment of the retina forming a retrolental vascularized membrane in the inferior portion. This baby seemed to follow a light well and developed normally in every other way. The baby was seen in November, January and March 1949. When last seen in March 1949, the synechiae present in the

right eye had disappeared and refraction was $-7.00 + 3.00 \times 60$.

Case 7.—L. C. D.: This last case has several atypical features but is a case of retrolental fibroplasia occurring in a full term baby girl, who weighed 8 pounds, 12 ounces at birth. The ocular abnormality was not noted for several months after birth. The child was first seen on July 10, 1946, at age of 5 months. She was at that time hospitalized in Blank Memorial Hospital for investigation of early hydrocephalus. Examination of the left eye was entirely normal. Examination of the right eye showed the eye to be somewhat smaller than the left, and the pupil did not dilate well with homatropine due to many posterior synechiae. Examination of the fundus of the right eye showed an elevation of the retina about the disc with marked vitreous haze. There was much folding of the retina with what appeared to be new vessel formation. There was no hemorrhage. The baby was seen again in August 1946 about six weeks later, and examination revealed a definite membrane behind the lens, irregular and white in color, giving the typical amaurotic cat's-eye appearance, and the anterior chamber was shallow without any elevation of pressure. The baby was seen again in June 1947, at which time the lens had become cataractous, the marked posterior synechiae were still present and the anterior chamber was still shallow, although there was still no evidence of any glaucoma. At that time the hydrocephalus had remained unchanged. When she was seen again in May 1948 at the age of 2 years and 3 months, the cataract of the right eye had progressed. The right eyeball appeared to be much smaller than the left eye, but the child seemed to see with the left eye. Homatropine examination in May 1948 showed the left fundus to be entirely normal seen with a high minus lens, and the optic nerve was normal, but there seemed to be a definite searching nystagmus. Transillumination was still entirely normal. I have been unable to locate this child since then.

Summary and Conclusion

Seven cases of retrolental fibroplasia seen in private practice are presented. The birth weights in all these children with the exception of the last were less than 4 pounds. The largest weighed 4 pounds, and the smallest weighed 2 pounds, 1 ounce. They were all born 2 to 3 months prematurely. The largest baby was born 7 weeks prematurely and the smallest 3 months prematurely. Of these cases 2 were bilateral and 5 unilateral. All of these cases were first seen before the age of 6 months except the first one. Associated general abnormalities were present in only one case, the

seventh, which was not premature and had an associated abortive hydrocephalus. An unusual finding was that the 5 unilateral cases showed marked high myopia in the fellow eye.

Retrolental fibroplasia is a problem of social importance. There are perhaps 600 new cases a year in this country, thus adding much to the blind load and presenting difficult educational and other problems. The disease process which occurs in this condition is now fairly well understood, that of an engorgement of the vessels, swelling and detachment of the retina and the formation of a retrolental membrane which consists of fused retina and retinal blood vessels. The cause is completely unknown; whether something new in treatment of prematures is the cause, or whether it is that many more premature babies are now saved than used to be is a question. The cause of the condition awaits further investigation.

Discussion

Placidus J. Leinfelder, M.D., Iowa City: Dr. Downing's paper illustrates that any of us may see a number of infants with retrolental fibroplasia, for the disease is no longer a rarity. Differential diagnosis between retinoblastoma, chronic uveitis with cyclitic membrane and even congenital cataract is not always easy. The presence of a vascularized retrolental membrane, retinal detachment, hyperplasia of the iris, shallow anterior chamber and microphthalmos are definitely indicative of retrolental fibroplasia, but occasionally the anterior segment phenomena are absent and the similarity to retinoblastoma is great. One would think that the differentiation between congenital cataract and retrolental fibroplasia would be easy, but sometimes the appearance is similar to that of dense posterior subcapsular and cortical opacities. Careful examination should prevent this error. Inflammation in an infant's eyes may lead to cyclitic membrane formation and detachment of the retina that may simulate retrolental fibroplasia.

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NEUROGENIC VESICAL DYSFUNCTION

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In patients with central nervous system injury the management of the so-called cord bladder has always been a major problem. In cases where the nervous injury involves the control of the urinary bladder this complication alone has been largely responsible for the high mortality rate, the reason for this being the frequent urinary sepsis and decubitus ulcer secondary to, or aggravated by, urinary incontinence. Should the patient survive these hazards, there arises another obstacle, that of making him a useful citizen. The patient who has improved to such an extent that he is able to get around with the help of splints or other orthopedic appliances is still a cripple if he dribbles urine all of the time or requires a rubber urinal. The urologic management, then, in conjunction with the neurologist, the orthopedist and the physiotherapist, becomes a vital cog in the rehabilitation of the patient.

For many years the urologist has been interested in the treatment of urinary retention due to obstruction and various disorders of the vesical neck. In his search for methods of treatment and in the diagnosis of lesions involving the bladder neck it was noted that certain cases did not quite fit into the usual picture. These cases have been called *cord bladder*, *hypotonic bladder* or *atonic bladder*, in that they were not typical of other forms of obstruction with urinary retention. As a matter of fact, whenever the case was atypical and no definite obstruction could be seen to account for the retention, this patient was quickly put into this category and not much else was done except to teach him the art of self-catheterization or to send him to the nearest drug store to purchase a rubber urinal.

When the spinal cord is injured there ensues a period of spinal shock, during which time the bladder is atonic and there is urinary retention with overflow. This period of atonia varies, lasting from a few days to several months, and the recovery depends upon the location and extent of the nervous system damage. There are three general types of recovery, which clinically are never as clear-cut as those described in the experimental animal.

The first type is the reflex neurogenic bladder produced by a transecting lesion above the conus. This bladder is cut off from the inhibitory control of the higher centers, and its owner can neither stop nor start his urine at will. This bladder is characterized by increased tone, decreased capacity and a small amount of residual urine. It is known as the automatic type of bladder and is perhaps functionally the most efficient type, in that it empties the bladder better and at less frequent intervals.

The second type results when the lesion involves the conus or the cauda equina with interruption of both the motor and sensory sides of the reflex arc. This bladder seems to function without completion of the reflex arc and is characterized by increased tone, decreased capacity and a variable amount of residual urine. The vesical neck is hypertrophied, and the contractions are feeble and poorly coordinated. This is the so-called autonomous or nonautomatic bladder and as a whole is functionally less efficient than the first type described.

The third type results when only the sensory side of the reflex arc is damaged. This lesion occurs when the conus or cauda are partially injured or in lesions involving the posterior roots of the pelvic nerves. This condition is analogous to tabes dorsalis. The bladder is flabby and atonic, with a large amount of residual and overflow. The bladder has a low intravesical pressure, and there is little or no reflex activity.

Much experimental work has been done to determine the neurophysiology of the bladder, both normal and abnormal, as a result of the various injuries to the central nervous system. The volume of the work done, and particularly the contradictory evidence put forth, attests that we still do not know the final answer. However, there are a few points agreed upon. It seems that the presacral nerves or the sympathetic nerves have little if anything to do with micturition, control of the bladder depending upon the parasympathetics which arise from the second, third and fourth sacral segments to form the pelvic nerve or *nervi erigens*. These nerves carry both motor and sensory impulses to and from the blad-

der. The pudendal nerves, which arise from the same segments, apparently supply semivoluntary innervation to the external sphincter.

The contraction of the detrusor urinae is thought to be the natural response to stretch. The reflex center which is situated in the conus medullaris is the relay center over which the reflex occurs. The higher centers are postulated as being inhibitory in nature, and as the bladder fills with urine it is prohibited from spilling its contents by inhibitory impulses arising from a subconscious level. When the stimuli reach sufficient intensity to reach the threshold of consciousness, it becomes necessary to exercise voluntary inhibitory impulses to prevent contraction of the detrusor. When a person desires to void, he then restrains the inhibitory impulses and allows the bladder to contract. A second reflex has been postulated. It has been suggested that, when the urine enters the prostatic urethra, a reflex is initiated by way of the pudendal nerve and sacral part of the spinal cord which causes the external sphincter to relax.

There is much confusion concerning the urinary sphincters. For years there have been two described, one at the vesical neck and one just beyond the verumontanum. The first has been called involuntary, while the latter is said to be under voluntary control. Lewis and others do not feel that there is such a thing as a true internal sphincter. He feels that the so-called internal sphincter is nothing more than the edge of the detrusor muscle, which would account for its being relaxed along with the detrusor in lesions which produce an atonic bladder. He says that incontinence of urine is obtained following removal of the prostate when the vesical neck can again contract, and he points out cystograms showing media retained behind the vesical neck with none in the prostatic bed. He reports a case in which the external sphincter was destroyed and the patient was continent but unable to stop the urinary stream once it had started. He argues that the external sphincter being striated in variety is not physiologically suited for involuntary control over long periods of time due to fatigability of striated muscle. On the other hand, Emmett and others have shown by cystograms that the prostatic urethra is wide-open and filled with media following resection, and yet the patient did not leak urine. Emmett feels that the external sphincter is in a tonic state of contracture, since in retrograde urethragrams a definite obstruction can be felt as well as demonstrated. So it would seem the problem has not been solved by any means.

The detrusor is innervated by the autonomic

nervous system, the fibers arising, as has been said, from the second, third and fourth sacral roots, which pass by way of the hypogastric plexus on the lateral surface of the rectum to the bladder. Sensation of stretch or distention is elicited from the nerve endings on the muscle bundles and passes through nerves traversing the second, third and fourth dorsal sacral roots. Dees has produced a tabetic-like bladder by severing these nerves bilaterally. Sensations of pain and temperature are recorded through these nerves which pass through the hypogastric plexus by way of the presacral nerve to enter the thoracolumbar cord. Sympathetic fibers from the lumbar segments innervate the blood vessels of the bladder wall, but it is improbable that it has any direct influence on the bladder wall, as section of these nerves experimentally produces little if any change in bladder function. The trigone as well as the ejaculatory ducts and seminal vesicals is innervated by the sympathetic, and hence in presacral neurectomy about the only thing the male loses is the power of ejaculation.

The urologic management of these cases then concerns itself with two phases: first, the management during the period of spinal shock and atonic phase, and, second, the care of the chronic neurogenic bladder.

Time does not permit the discussion of the management of the acute atonic bladder in this paper, and my remarks will be confined to the second phase or care of the chronic neurogenic bladder.

When the nerve injury has returned to its maximum recovery, the patient has then reached the chronic stage of neurogenic bladder. If recovery is complete, the bladder will then resume normal function. If it is incomplete, depending upon the level of the lesion, it will fall into one of the three classes. Of these types, the automatic bladder seems to have the best outlook. In Thompson and Bumpus' series a little over 50 per cent were able to empty their bladder well enough to stay dry and to have their urine sterile. This was accomplished by the bladder itself or in combination with manual compression when voiding started. Those who did not empty well enough or who were unable to control the infection were treated by transurethral resection. The so-called autonomous, or nonautomatic as some prefer to call it, results from lesions involving the conus or cauda and is treated in two ways: either by manual compression in effort to remove all or nearly all of the urine at intervals or by removal of the vesical neck when the imbalance between the detrusor and vesical neck is too great to be overcome by the previous meth-

od. Presacral neurectomy theoretically should relax the vesical neck, but apparently all it does is to increase the vascularity of the bladder, and from the observations in the literature it has not produced the desired results.

The atonic bladder resulting from sensory nerve injury responds well to manual compression, though here again the obstruction at the vesical neck may be too great to overcome. As Emmett has shown in tabetics, the majority of those having urinary retention have been in the prostatic age, and then retention has been a mechanical one. These cases responded well to transurethral resection.

As I have pointed out, there are a certain percentage of these cases, regardless of the level of the lesions, which do not respond to manual compression, or in which the bladder is not able to empty, or the periods of urination are so close together that the patient is unable to stay dry or the residual is infected and resists all forms of chemotherapy. These cases have been the ones in the past that were regarded as hopeless by the physician. He left these cases more or less to their own devices for fear of infection which, if not present, would surely result from his investigation and mainly for fear that any attempt to correct or remove the obstruction would only make the patient worse. In this group of patients new interest has been aroused by the work of Emmet and others, who for the past 10 or 12 years have been discovering that much can be done to help these patients regain reasonable bladder function.

On the observations that in the true neurogenic bladder, that is, the automatic and nonautomatic type where both motor and sensory systems were involved, all of these cases had three things in common: (1) increased bladder tone, (2) presence of residual urine and (3) active incontinence of the same type. In every case, excluding the atonic type, there was increased tone and thickness of the bladder wall. Trabeculation was apparent in all cases. This plus residual urine is indicative of obstruction. On the theory that there is an imbalance between the detrusor and the thickened vesical neck, plus these findings, it was felt that removal of the vesical neck might be of benefit. This was cautiously done, and the results have been encouraging enough to urge the investigators on to more cases.

The interpretation of the various types of neurogenic bladder as to automatic or nonautomatic varies somewhat among the men who are doing the work with this subject, but the fact remains that, regardless of what type of lesion causes the dysfunction, the results obtained are

promising enough to justify the operation. Drs. Thompson, Jacobson and Emmett have reported cases occurring in children and in those having anomalies of the spine with coexisting myelodysplasia which have responded well to transurethral resection. They have also reported numerous cases among service personnel, as during the recent war there was a marked increase in the number of spinal and nervous system injuries.

I would like to stress that what the urologist hopes to attain by this procedure is that the patient's incontinence be eliminated so that he may stay dry, the bladder is able to empty its contents completely, leaving no residual urine, and that the patient can either initiate the act of urination or have sufficient warning so that he can get to a urinal without soilage. It is important to remember that this treatment is only a small part of the entire picture. The various other interested fields must do their part in the rehabilitation. The patient must be taught coordination with or without splints, and effort should be made to get him on his feet. This procedure does not in any way correct the basic lesion; it merely removes a mechanical obstruction. The treatment of these patients requires time and patience, and it is not without many setbacks that some patients learn to use other muscle groups and abdominal pressure to help in the act of urination.

The operation itself is not difficult for those experienced in transurethral procedures. The same principles apply here as in transurethral resection. The vesical neck must be well resected, both widely and symmetrically, to the level of the verumontanum, and it may be necessary to do this in two or more states before the desired result is accomplished. I would like to stress here that it is better to take out too little the first time than to do a more radical resection and incur all of the various complications that can arise. In cases where there is little or no prostatic tissue apparent the vesical neck may present a varied picture. It may be relaxed and not appear obstructive at all. It may be thickened and resemble a collar. Contraction rings and pseudo sphincter-like structures have been described. The obstruction may not become apparent until a bite or two of tissue has been removed.

All three of these types that I have described in the preceding pages may occur in children, but the most common type that we will meet in pediatrics is the autonomous group which falls into that group of lesions involving the conus or cauda equina. These are the so-called myelodysplasias, where there is a congenital deformity of the cord or the fibers in the cord or the cauda

equina itself. These are usually associated with some bony defect demonstrable by x-ray. There may be a palpable defect in the lumbosacral portion of the spinal column, a depression of the sacrum or a deep coccygeal fossa. There may be dimpling, a scar or a fatty mass over the defect in the spine. Pigmented areas, nevus or an outgrowth of hair have been noted. Along with these physical findings there may be neurologic changes in the perineum and lower extremities. Many of these people have deformities of the feet, such as claw foot.

In most of these children the presenting symptom will be incontinence of some type, but we are becoming more aware that the only presenting symptom may be pyuria, and on further investigation it is discovered that there is residual urine which is present because of an obstruction due to neurogenic vesical dysfunction.

It is this point that I would like to stress repeatedly. In the young patient presenting himself with a history of chills, fever and pyuria which fails to clear up with present-day antibiotics, even if there are no apparent neurologic findings, it would be well to investigate the urinary tract further, and, if there be evidence of dysectasia, that is, trabeculation, residual urine and changes at the vesical neck, removal of the obstruction will usually eliminate the pyuria. If the child has some form of incontinence with residual urine, then the results will be more dramatic in that in the majority of these both the incontinence and residual can be eliminated. Unfortunately in myelodysplasia there is usually a concurrent weakness of the external sphincter, and the results may not be as good. The residual urine and infection will disappear after resection, but the patient will still have some incontinence. Recently Emmett has been advocating plastic procedures on the urethra in effort to give support to the external sphincter. He has been successful in the female, but so far the plastic-strengthening operations on the male have been unsatisfactory. However, in spite of the incontinence in a few of these patients, the improvement in their bladder function with elimination of the infection makes the removal of the obstruction a valuable procedure.

My own personal series is quite small, and most of the patients have been adults. However, I would like to present two children on whom I have recently done transurethral removal of the vesical neck.

The first is a child, aged 9, who shortly after birth was discovered to have a lesion of the lower spinal cord. At operation it developed that it was a syringomyelic-like lesion involving

the conus and equina. Following surgery he had bladder and bowel dysfunction and required a rubber urinal in order to stay dry. The parents were able to control his bowel fairly well by the judicious use of constipation and enemas. He has worn a brace for support of his frail limb. On first examination his urine was found to be infected with gram-negative rods and his upper urinary tract was normal per intravenous urography. There was no evidence of dilatation of either kidney. After he voided by compression of the abdomen, a catheter revealed 150 cc. residual. Cystogram revealed no evidence of reflux up either ureter. Neurologic findings were confined to the perineum and lower extremities. Cystoscopic examination revealed a small collar-like obstruction at the vesical neck. There was poor expulsive force, and the bladder was trabeculated. The vesical neck was completely resected by means of the infant resectoscope, and upon removal of the catheter a few days later he was able to empty his bladder completely, leaving no residual. Since the removal of the obstructive tissue on June 28, 1948, he has been able to stay dry by going to the bathroom at regular intervals and emptying his bladder by manual compression. His urine has been sterile, and he is no longer in need of the urinal. When he first came to my office, the mother was mainly interested in having the moist ulcerative lesions of the penis cleaned up. These were due, of course, to the constant presence of the rubber urinal, and, since he no longer uses it, the lesions have cleared of their own accord. He still has accidents and will get wet if he fails to be regular about emptying his bladder, but he no longer has fever or pus in his urine. It must be remembered that he still does not have voluntary control of his bladder. All that the surgery to the vesical neck accomplished was to remove the mechanical obstruction so that he was able by compression to empty his bladder completely, thereby eliminating the residual which predisposed to infection; as long as he goes at regular intervals he does not fill his bladder up to such a point that it overflows, and since he can now empty completely the periods are longer both because there is more space for urine by elimination of the residual and the bladder wall is more receptive due to the absence of infection.

The second case is a boy, aged 15, who had a meningomyelocele rupture during delivery in the home. This was repaired following delivery. Since that time the boy has had both bladder and bowel dysfunction. He is able to control his bowel fairly well by constipation measures. His feet were stabilized by a series of procedures

at the University of Iowa. He has worn a urinal ever since he came out of diapers. He, too, has severe trophic changes of the penis with warty, cauliflower-like growths deforming its appearance. He has sensory changes in the perineum and in the lower limbs.

On first examination his urine was found to be infected with gram-negative rods. It was ammoniated in odor and strongly alkaline in reaction. His upper urinary tract was normal per intravenous urography. After he voided, a catheter was passed and little, if any, residual was obtained. Cystoscopic examination revealed reduction in sensation with good expulsive force. There was some apparent obstruction at the vesical neck, and the bladder wall was trabeculated.

In spite of the absence of residual urine I was certain that to be infected he must run some retention and accordingly resected his vesical neck. In this case a second resection was necessary before he obtained a good result. Since the second resection on Oct. 16, 1948, he has been able to eliminate his urinal completely and his urine has been sterile. He still has accidents when he strains or exercises too vigorously as his external sphincter is poor. However, if he is careful, he can stay dry for as long as three hours, and needless to say he no longer smells like he did. This boy differs from the first in that his abdominal muscles are strong enough that he can void without manual compression, which is a definite asset in these cases.

In conclusion, I believe that both of these boys have been improved. They are both able to get along without their urinals and have a fair degree of control over their urinary habits. Most important of all, however, they are rid of their infection, and we know that it is the secondary pyelonephritis that kills these people, not their incontinence. At least the elimination of this hazard is a step in the right direction, regardless of the fact that their control might not be quite perfect.

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College of Medicine
State University of Iowa
**CLINICOPATHOLOGIC
CONFERENCE**
November 23, 1949

Summary of Clinical Record

A 3 year old white girl was admitted to the pediatric service March 24, 1949. Her admission complaints were those of progressive restlessness and irritability for three months. She had been comatose for six hours before admission.

This child was the fifth of eight children in the family, which was supported by funds from charity organizations. No known hereditary disease was present in the family. Three siblings in the home had chickenpox at the time of the patient's admission. No other infectious disease was present.

The history of this child's motor development was normal. At 3 years of age, however, she could say only four words. She had received no immunizing inoculations. Nine months prior to this illness she had fallen an unknown distance and was unconscious for a brief period of time thereafter. The details of this episode were vague.

The child was thought to be in good health until three months before admission to this hospital. At that time the parents stated she became restless and irritable. She was noted to "pick at her face, lips and tongue." She spent most of her time sleeping and playing on the floor in front of the stove. The fact that she

preferred to lie and play with the ashes rather than to go outside to play was of concern to the parents.

Approximately three weeks before admission she began to vomit, usually in the morning. She ate almost no solid food and drank small amounts of milk. She became more irritable. She was admitted to the local hospital, where no known therapy was given. She was said to "throw herself around in her crib and to scream." These symptoms were so severe that she had to be placed in a section of the hospital apart from the other patients. With little change in her symptoms she was dismissed from the hospital after a period of about 10 days.

Five days before the present admission she was taken to another local physician because of a high fever. She was again admitted to the hospital. The symptoms of anorexia and restlessness increased. Eight hours before admission to this hospital the symptoms became more acute and she had a temperature of 103° F. During the latter part of the trip to this hospital her breathing was noted to be shallow. As she was brought into the examining room, her breathing stopped. Oxygen and artificial respiration were given, and she resumed breathing in about 10 minutes.

Physical examination revealed a pale girl who was comatose and had the appearance of being chronically ill. The pupils were equal, small and did not respond to light. When disturbed, a scanning movement of the eyes was present. When undisturbed, a divergent squint was observed. The ocular fundi were not satisfactorily visualized. The lips were dry and crusted, and the teeth were carious. The buccal mucosa and gums were injected and friable. Numerous shallow ulcers covered by purulent material were present throughout the mouth. The tonsils and the pharynx appeared normal. The blood pressure was 120/84 in both arms. There was a pronounced generalized hypotonia. The deep reflexes were depressed but present. She did not respond to painful stimuli. Purpuric areas, irregular in shape, 1 cm. to 3 cm. in diameter, covered the greater part of the posterolateral aspect of each leg from the knee to the ankle.

A catheterized urine specimen was insufficient to determine the specific gravity. It was acid in its reaction. No albumin was noted. One plus reducing substance was present. It was negative for acetone. The examination for blood was negative. About four to five white blood cells were present in each high power field in a centrifuged specimen. An occasional hyaline cast was identified.

The hemogram revealed 6.5 gm. of hemoglobin per 100 ml., 3,740,000 erythrocytes per cu. mm. and 14,000 leukocytes. The differential leukocyte count was recorded as: segmented polymorphonuclears 66 per cent, eosinophils 0, lymphocytes 30 per cent and unclassified cells 4 per cent.

After the child's breathing seemed stabilized, a spinal tap was done. The fluid was clear. The pressure was sufficient to rapidly force the fluid to the top of a 400 mm. manometer. Immediately following this procedure, the child stopped breathing. She responded to oxygen and artificial respiration. A smear of the spinal fluid was negative. A culture of the fluid was reported to contain "an aerobic gram-positive rod, probably a contaminant." The Pandy test was 2 plus. The spinal fluid chloride was reported to be 702 mg. per 100 ml. The spinal fluid sugar was 108 mg., and the spinal protein 300 mg.

Blood was drawn at the time of admission for numerous examinations. The agglutination tests for typhoid, typhus and brucellosis were reported to be negative. The cephalin flocculation test was recorded as 3 plus in 48 hours. The N.P.N. was 61 mg. per 100 ml. The Wassermann reaction was negative.

Oxygen therapy was continued during the night. She improved to the extent that she sat up for brief periods of time, although she remained stuporous and restless.

When she was again examined early the next morning, typical lesions diagnostic of varicella were present on her trunk. She was transferred to the isolation service. Her course was one of increasing fever. She took adequate oral fluids but refused all solid food. She remained stuporous and restless.

On the morning of the second hospital day there were mild clonic convulsions, which were restricted to the upper one half of the body. She died on the afternoon of her second hospital day.

Dr. J. C. McQueen (Pediatrics): The medical history included in the protocol is that obtained at the time of the patient's admission. Would someone like to suggest a question that might have been asked the parents of the child when they arrived the next morning?

Dr. E. L. De Gowin (Internal Medicine): What were the parents burning in the stove?

Dr. McQueen: The answer would have been "battery casings." Obviously, the diagnosis is made. Additional pathognomonic findings were purposely excluded from the protocol. There was marked stippling of the erythrocytes, and a lead line was demonstrated by the roentgenogram.

Dr. R. D. Eckhardt (Internal Medicine) (Student Diagnosis): The majority of the students made a diagnosis of chronic lead poisoning. It was their opinion that three entities should be considered under differential diagnosis. The first entity discussed was a chronic infectious process. They decided this was unlikely because of the fact that the onset was insidious, there was no history of fever and examination of the spinal fluid revealed no evidence of a chronic infection. The second entity considered was an intracranial space-occupying lesion, and a small number of the students thought that a chronic subdural or epidural lesion was the most likely diagnosis. However, the majority felt that if a space-occupying lesion was the cause of the symptoms, the onset should have been more rapid following the head trauma or that, once the process did develop, after a lapse of time it should have progressed more rapidly than over a three months' period of time and also there would be greater likelihood of localizing symptoms or signs. The third entity, and the one considered most likely by the majority, was some form of chronic poisoning. They pointed out that lead poisoning was likely because of the history of the child playing in the ashes. The students stated that they reviewed from their textbooks the symptoms and signs of chronic lead poisoning and found that every one of the symptoms and signs presented were perfectly classic of those found in chronic lead poisoning. The students also were aware that they could not make a definite diagnosis without additional laboratory and x-ray studies and that they would certainly examine the blood for stippling and take x-ray films. They further stated that they would question the family as to what was burned in the stove and not confine their questioning to lead batteries but would also consider other sources of lead, such as boards painted with lead paint.

Dr. Louis Hungerford (Fairfield, Iowa): I would like to say something regarding how I happened to see this child in the first place. In the city from which she comes the county work is done in rotation. She obviously was an indigent patient and had been under the care of one of my colleagues for the past month. This case points out, as far as I am concerned, remarks that were made frequently by Dr. F. M. Smith before his death, namely, "If you will take time to listen to the patient or the patient's parents, they will most often tell you the diagnosis." I have had the opportunity to go out and see the home from which this child came, and it leaves much to be desired. There are no provisions made for fuel except for what comes from the local dump, which is about a block away, and that

is where the battery casings were obtained. I also would like to point out that many of the physicians in the town from which she came have discussed the route of entrance of the poison into her body. Many of us believe that she most likely inhaled the fumes. In a series of cases reported by Holt and MacIntosh, at least 50 per cent resulted from inhalation, and in this series more than 75 per cent were complicated by encephalopathy.

Dr. R. L. Jackson (Pediatrics): Dr. Hungerford, could you give us any information relative to the milk intake of this patient?

Dr. Hungerford: As far as the milk intake is concerned, I have inquired and found that only one younger child in the family was receiving any milk. In fact, the diet of the family is extremely poor, no doubt due to their economic status. However, I am happy to report that we have corrected that to a great degree and that in addition to receiving milk the children also are now receiving vitamin D. I would be glad to answer any questions regarding the child prior to entrance to the hospital.

Dr. E. F. Van Epps (Radiology): The film on this patient shows an area of increased density extending across the juxta-epiphyseal lines of the femur, tibia and fibula. There is also present a less wide linear area of increased density deeper in the shafts of the above mentioned bones. A film of the hands taken at the same time demonstrates similar changes in the distal ends of the radius and ulna but also in the distal ends of the metacarpals. These changes are not as pronounced, and, were I to view this alone, I would be forced to state that the changes were well within normal limits. It should be emphasized that the deposition of any metallic substance, i. e. bismuth, lead or phosphorus, is greatest at the more rapidly growing ends of the long bones. Similar deposits of metallic substances occur in the ribs, vertebral border of the scapula and in the iliac crests. The density and thickness are directly proportional to the intensity and length of exposure.

The radiologist, given a film such as we have seen here today, should state in his report that there is a linear area of increased density in the metaphysis of a bone "compatible with the deposition of a heavy metal." To state that such changes are pathognomonic of lead poisoning is to err grossly, since similar changes are produced by bismuth poisoning, inorganic phosphorus ingestion, in healing rickets, scurvy, vitamin A deficiency, erythroblastosis fetalis, bacteremias and nutritional disturbances of obscure origin. There are differences sufficiently great that a radiolo-

gist can exclude rickets and scurvy and particularly inorganic phosphorus poisoning. A history from the clinician usually will be of considerable help in determining the cause in many other cases. It should be emphasized here that dense zones of provisional calcification with extension shaftward are not uncommonly seen in healthy individuals without disease. This possibility should always be considered as likely before a report is sent by the radiologist of lead poisoning.

To summarize, this case presents radiographic evidence of the deposition of a heavy metal, and this finding coupled with the history that accompanied the patient's x-ray request is sufficient for us to state on the record that the density is compatible with the deposition of lead.

Dr. R. H. Ten Pas (Intern): Does the line represent previous years' accumulation of lead?

Dr. Van Epps: That is a good question. I would suspect that these lines are not based upon the deposition of lead, since they are quite deep in the shafts of the bones, indicating that whatever process it was that caused them occurred many months ago. It is true that disappearing lead lines will eventually look like this. If correlation could be made with the history of ingestion or inhalation of lead or of some infection, my answer as to the cause for these lines would be based upon that information and not upon the characteristics of the dense line in the bones. Pathologically these consist also of dense calcified matrix.

Dr. Jackson: We certainly see that with patients which we do not know have had lead.

Dr. H. W. Mitchell (Intern): Just one more comment on that same line—a patient at the Riley General Hospital, Indianapolis, who the previous year had been in with the diagnosis of lead poisoning, entered the following year with the same diagnosis, and definite lead lines were present for both years. It looked similar to this, and I was wondering if it could be?

Dr. Jackson: It could be. We can see it in definite lines in patients who have received anti-luetic therapy with bismuth also. Heavy metals can do it, but other growth nutritional changes can do it as well, and they are seen commonly in patients in whom there is no history of heavy metal intake.

Clinical Diagnosis

Lead poisoning.

Necropsy Findings

The diagnosis of lead poisoning was confirmed by the autopsy findings. Lead was identified qualitatively in a specimen of bone examined by Dr. W. J. Teeters, state toxicologist. Basophilic stip-

pling could be demonstrated in the erythrocytes in blood smear. The recently formed bone in the metaphysis of the long bones was unusually dense. This had resulted from a disturbance in enchondral bone formation, characterized by failure of resorption of the calcified cartilage matrix in the zone of provisional calcification. Newly formed spicules of bone at some distance from the epiphyseal line still contained bars of calcified cartilage in them. Bone formation was preceding in a normal fashion in other respects.

The findings in the brain were those of intense edema with thickening and histiocytic infiltration of the leptomeninges. These findings justify the diagnosis of early lead encephalitis.

A small adenoma of the kidney was an incidental finding. The skin showed a vesicular eruption which had been diagnosed clinically as varicella.

Necropsy Diagnosis

Chronic lead poisoning with early lead encephalopathy and abnormal enchondral ossification.

Adenoma of kidney.

Dr. E. J. Boyd (Pathology): There were a few other findings, most of them not of much significance. There was a little tubular adenoma of one kidney. There were a few focal zones of necrosis in the liver which are not at all specific. They mean only severe constitutional disease, as far as I know, and I have seen it in a great number of different conditions. There was no particular infection anywhere.

To summarize, there was swelling of the brain, which with these findings in the bone, the basal stippling of the red cells and the chemical finding of lead in the bone by Dr. Teeters, rather establishes the diagnosis of chronic lead poisoning.

Dr. Eckhardt: What about the kidneys?

Dr. Boyd: I could find no lesions in the kidneys which could have accounted for nitrogen retention. There were changes, but they were not beyond those of severe illness and apparent dehydration plus the effects of autolysis. I have no doubt that they were diseased, but our methods are not fine enough to demonstrate the lesions.

Dr. H. E. Hamilton (Internal Medicine): Was there evidence of erythroid hyperplasia of the bone marrow?

Dr. Boyd: Not particularly. The bone marrow was quite active, but it often is in children of this age. What is normally red bone marrow was red, and there was considerable activity in the bone marrow of the long bones such as the femur.

Dr. Jackson: We also checked the urine for lead and were unable to identify it in the urine of the child during the time she was in the hospital. We would like very much to have Dr. Stearns and Dr. Schueler discuss the problem.

Dr. G. Stearns (Pediatrics): Lead is a bivalent metal and acts in the body exactly as does calcium. Its salts have about the same solubility as similar calcium salts. Lead is deposited in bone as lead phosphate or carbonate and when so deposited is relatively inert. The toxicity of lead is due to the circulating ionized lead and that which has combined with substances essential for the health of the cell. For example, one hypothesis concerning lead toxicity suggests that it acts by interfering with the phosphorylation processes, so essential in many body mechanisms. This is just an hypothesis. I know of little evidence to support it.

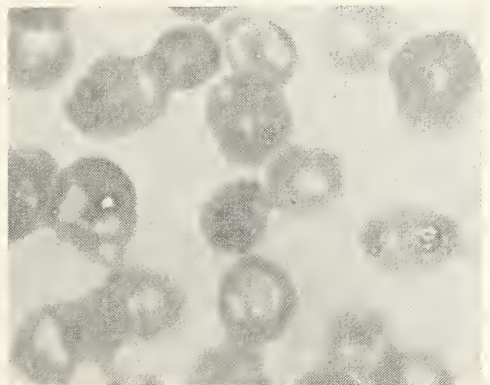


Fig. 1. Basophilic stippling of erythrocytes.

The fact that lead behaves in the body much like calcium provides the clue as to how to treat lead poisoning: Get it out of circulation and into bone, where it is relatively inert, as soon as possible. Ample phosphorus to combine with the lead and ample vitamin D to insure its deposition in bone are essential. In practice, a quart of cow's milk a day will provide sufficient phosphate ion for both its own calcium and considerable lead. Vitamin D in the amount of 300 to 400 units daily will accomplish maximum rate of deposition in bone. Additional vitamin D will not increase the rate of deposition, and in a small child amounts of 2000 units or over will delay deposition; high dosages will reverse the whole process and bring bone salts out into circulation. It seems to me the fact that this child customarily got no milk undoubtedly was a contributing factor in the development of the encephalopathy. At least it might have developed more slowly had she had a good milk intake, particularly if she had also received vitamin D. Had milk been given, we

would have found heavier lead deposits in the growing ends of bones, and, of course, less would have remained in the soft tissues.

An additional recommended therapy is to give sodium citrate by mouth. Lead citrate, like calcium citrate, is soluble but not well ionized. Citrates probably are deposited in newly formed bone also, so the administration of citrates will not only decrease the ionization of lead, hence its toxicity, but may also hasten its deposition in bone.

After the lead has been transferred to bone, what then? Formerly, the general treatment was to start a deleading process as soon as the patient recovered from the acute toxicity. By means of acidosis, induced by ammonium chloride therapy, and by giving parathyroid hormone, all of the newly deposited lead and calcium salts that had been so carefully deposited were brought out again and excreted. Obviously the rate of de-

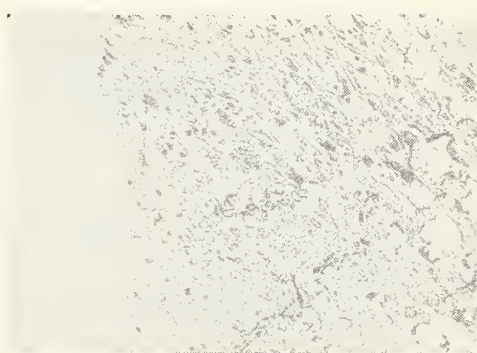


Fig. 2. Bone, epiphyseal line in chronic lead poisoning.

leading had to be slow to prevent recurrence of toxicity. The patient thus became osteoporotic.

In growing children the production of severe osteoporosis is not to be undertaken lightly. Studies of heavy metal lines in long bones show they move progressively inward and become less marked, finally disappearing. It is known that bone has a normal "turnover." Mineral deposited normally in bone is not permanent; it is slowly excreted after some months. For children at least, the treatment of choice appears to be to let nature remove the lead, once it has been deposited. Toxicity during its removal has not been reported nor have disturbances of growth due to the presence of heavy metal (nonradioactive) in bone.

Dr. F. W. Schueler (Pharmacology): I might say something about this matter of carious teeth which was mentioned but not commented upon. In this case the clear-cut lining of lead in the margins of the gums was probably facilitated by the fact that the teeth were carious. Next to a tooth which is in a state of pyorrhea and in a

mouth of poor oral hygiene one often finds it particularly easy to detect this material. On the other hand, in cases of lead poisoning, even in which the individual has profoundly developed the symptomatology corresponding to lead poisoning, the accumulation of this material may not be evidenced if the proper amount of oral hygiene has been practiced. I would like in this discussion to jump from point to point where I think I can add most effectively to the general discussion.

First, as to the insidious nature of lead, it is a material of which many of the salt forms have a sweet, not unpleasant taste. For example, the name "sugar of lead" has been given to lead acetate. This material is sweet. Furthermore, there are many misconceptions floating about concerning the safety of lead pipes. Actually, a lead pipe which is clean and has distilled water going

ogy. For example, one can say that about 90 per cent of all cases of lead poisoning will be of what one might call "the gastrointestinal type" in which a colic predominates. Upon injection of calcium gluconate intravenously in these cases the colic will usually subside. If the colic does not subside with the use of calcium gluconate, then one can look rather seriously for other possibilities, although not giving up completely the hypothesis of lead poisoning until this indication is confirmed by other diagnostic measures. In cases of stippling something may be added in regard to the mechanism of action of lead. The only fairly certain mode of action of lead in the body which has been worked out from the enzymologic standpoint and which ties up with the development of the anemia has to do with an inhibition by lead of the incorporation of iron into hematin during the production of hemoglobin. Another



Fig. 3. Epiphyseal line, normal.

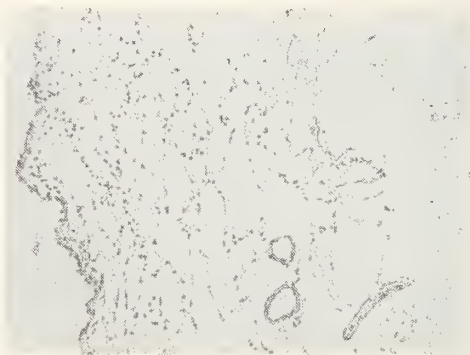


Fig. 4. Meningeal thickening.

through it is much more likely to produce plumbism than a pipe which is coated with dirt and through which impure alkali water is running. This may be due to the fact that the coating of lead hydroxide and oxides on the pipe are much less soluble in water than the lead itself. Further evidence of the insidious nature of this material is indicated in the fact that a large dose of lead taken in a single shot will probably not produce lead poisoning. A large portion of the lead salts are formed into their fat congregates and are excreted as such from the gastrointestinal tract. The same quantity, however, taken in small doses over a period of time will be absorbed and produce plumbism. From the standpoint of diagnosis, it should be stated that there is a distinct difference between (1) evidence for the accumulation of lead, and (2) evidence of lead poisoning. Thus, the diagnosis of lead accumulation can be made by means of laboratory tests, but the diagnosis of poisoning as such has to be made by the clinician on the basis of his experience in recognizing the clinical signs and symptomatology.

point regarding the mechanism of lead symptomatology concerns its tonic action on smooth muscle, this latter effect being counteracted by calcium in colic. This tonic action of lead also explains the peculiar pallor of the intoxicated individual through peripheral vasoconstriction.

Something should be said in regard to the central phases of lead intoxication. Most cases of lead encephalopathy have to do with the taking in of compounds of lead of an organic type in which the lead is not ionizable and in which the radicals tied to the lead make it lipid soluble so that it gains ready access into the central nervous system. Thus, lead tetra-ethyl, used widely in the gasoline industry, and other lead compounds of the organic type may always be suspected in this regard, whereas the ionizable salts, in general, produce more often the colic and stippling. Lead encephalopathy must not, however, be mitigated, since it is responsible for most deaths in cases of lead poisoning. Care must be taken in the interpretation of stippling, since poisons like benzene and a host of other materials, indeed

virtually anything that will put a severe strain on the bone marrow, will produce a certain amount of stippling. Therefore, stippling alone does not serve as a total diagnosis of lead poisoning. In fact, no one of these methods alone, even the marginal line along the gums, which may be duplicated completely by bismuth, can serve conclusively as diagnostic evidence of lead intoxication. In the bones, plutonium, neptunium and a host of heavy metals that are new in our world today produce similar types of depositions in so far as the x-ray is concerned.

Lastly, and in regard to therapy, the use of BAL is strictly contraindicated in plumbism, because the lead-BAL complex is more toxic than, or at least as toxic as, the original lead. Some papers indicate that there is probably a synergism between these two materials. While BAL is of no advantage and, indeed, dangerous in lead poisoning, it is, of course, of great value in the treatment of many other metallic intoxication states. This discrepancy may have to do with the difference in ionizability of the lead-BAL complex or with regard to its solubility. Exactly why lead does not operate in a manner similar to other metals in the production of its intoxication may be explainable on the basis that lead does not gain access to —SH enzymes in the same way that one tends to think of arsenic and some of the other metals.

It has been indicated that therapy against lead poisoning is largely directed toward a complete demobilization of this material in the bone together with a "let-nature-take-its-course" diet program in which one depends upon the normal turnover of mineral in the body for excretion. However, there is a good deal of division on the question of whether mobilization should follow demobilization. I have gone to some lengths to see just how widely accepted are each of these viewpoints. The protagonists of the mobilization following demobilization therapy state that the individual, if he has a considerable amount of lead already in the bone, i. e., demobilized, is liable during infection or any critical change in physical state to demobilize large quantities of lead and thereby bring about an acute attack. The "mobilization alone" therapists argue that the length of hospitalization necessary is usually prohibitive for a course in demobilization and that the risk is considerable. In any case, it appears that the rate of excretion through active demobilization is not sufficiently more rapid than effected by the natural turnover rate.

Today we must recognize the dynamic state of body constituents and that in time the process

of demobilization will take place. In the meantime a well regulated diet and life will probably do more to benefit the patient than the risky procedure of active demobilization, and it has the added advantage of allowing him more freedom to go about his daily life.

Dr. Jackson: Another entity worthy of mention is acrodynia. Dr. Josef Warkany and Dr. Donald M. Hubbard recently reported that they were able to find appreciable amounts of mercury in the urine of 28 out of 30 patients with a clinical diagnosis of acrodynia. From the recorded clinical histories no sources of mercury could be ascertained. However, it was found that teething powders, vermifuges, ammoniated mercury ointment and bichloride of mercury used for the disinfection of diapers were frequently established as the sources of the urinary mercury. The results suggest that many cases of acrodynia represent an unusual reaction of children to the exposure to mercury. They also have found that BAL is effective in treating some patients with this condition and are studying the incidence of the disease in sections of the country and in sections of the world where mercurial preparations such as teething lotions are more commonly used.

Dr. F. H. Hesser (Neurology): It should be pointed out that lead may injure the nervous system in such a way as to produce a variety of signs and symptoms according to the rapidity and severity of intoxication and the age of the patient. As in this case, encephalopathy usually appears as a pediatric emergency, though it may take a milder chronic form in adults. Its manifestations may be confused with those of brain tumor, particularly when intracranial pressure is increased. Optic atrophy may accompany encephalopathy or appear in children as an isolated finding. The wrist and foot drop of adults is unusual in childhood. A rare variety of lead myelopathy affecting anterior horn cells and producing a picture similar to progressive muscular atrophy is said to occur only in adults. I have seen one such case in a painter whose signs appeared gradually, accompanied by repeated attacks of mild lead colic during a period of several years. Hence, it would seem that acute lead intoxication is more prone to appear in childhood and produce widespread damage to the central nervous system, whereas a more selective and sometimes insidious injury characterizes the adult form. Here again, opinions differ as to mechanisms involved. The most common adult variety of neurologic disturbance due to lead appears as a purely motor paresis or paralysis of distal extremities involving chiefly extensor muscles and advancing in direct proportion

to the extent to which the extremity is used. Right-handed painters will, for instance, exhibit the more severe wrist drop on the right. Experimental work has shown that a selective paralysis could be produced in lead-poisoned animals by fatiguing certain muscles. Theoretically, the toxic effect was in some way related to local lactic acid concentration. Moreover, the pathologic changes were confined to the muscles themselves, with no evidence that lead had injured the motor nerves. This would indicate that wrist and foot drop is due to toxic myopathy rather than to neuritis, as previously and even currently taught. It would also account for the lack of sensory change of the "glove and stocking" type seen with most parenchymatous neuropathies.

Dr. M. E. Barnes (Hygiene and Preventive Medicine): I would like to point out that when battery casings are used as fuel there are two methods whereby lead may enter the patient's body, namely, by inhalation or by ingestion.

There is some uncertainty as to the exact form in which lead exists when it is in a state of fume. There is no doubt as to the rapidity with which it may enter the body when inhaled in fume form. Inhalation of volatilized substances is second only to intravenous injection in the rapidity of entrance of a substance into the blood stream. I believe this method must have been quite important in the case of this child.

Ingestion affords the second mode of entry. The record states that this child "preferred to lie and play with the ashes rather than to go outside to play." Children oftentimes are finger-suckers so that lead-laden ashes could easily be transferred to the mouth.

Insofar as I have been able to ascertain, the first reported cases of lead poisoning originating from discarded battery casings were described in 1933¹ by Williams and his co-workers. They reported 40 cases in 20 families in Baltimore who had used battery casings as fuel. Since that time cases of similar nature have been reported in the literature in 1941,^{2,3} 1943,⁴ 1944,⁵ and 1947,⁶ from homes in Kentucky, West Virginia and Louisiana. Some years ago we had a case in this hospital of a young man, aged about 19 years, who was employed in a small salvage plant in a nearby city. His duties were to break open these batteries, brush off the lead from the plates into a receptacle, melt the lead and skim off the dross. All of this work was done in a small room, without any protection to him at all. We reported this case to the Iowa State Department

of Health, which made a careful investigation of the salvage plant involved.

It has been demonstrated that enough lead remains on the discarded casings to offer a definite hazard to those people who use them as fuel. This being the case, there should be some rule or law requiring that discarded casings be destroyed or buried instead of being dumped out where people can get them.

Dr. Jackson: I would like to ask Dr. Hesser what the prognosis is in a patient when the definite encephalopathies begin to develop, regardless of what type of therapy is done.

Dr. Hesser: The few cases of lead encephalopathy that I have seen in children all terminated fatally. Holt reports a mortality rate of about two-thirds. Moreover, if the patients survive, they are apt to be mentally defective and to show permanent neurologic dysfunction including convulsions and various motility disturbances. Prognosis is considered bad if convulsions or signs of increased intracranial pressure appear. I have, however, seen several unfortunate children left completely blind with no other neurologic or mental deficit. Prognosis in wrist and foot drop seems to depend upon the severity of involvement and effectiveness of treatment in immobilizing lead. Often these patients suffer permanent disability, with severe muscular atrophy leading to contractures and requiring orthopedic care. The question of lead tetraethyl poisoning is an interesting one which may have medicolegal implications. Investigators in this field consider the intoxication to be associated with the highly volatile nature of the substance itself, which contains the ethyl radical. Symptoms are extremely acute, may resemble delirium tremens and may evolve into a Korsakoff-like syndrome if permanent brain injury ensues. The resemblance to ethyl alcohol poisoning is striking, and, since no lead was demonstrated in the brains of people dying of lead tetraethyl, the aliphatic rather than the lead portion of the molecule was implicated.

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STATE DEPARTMENT OF HEALTH

Walter L. Biering

Nineteen hundred forty-nine followed the general communicable disease trends shown in 1948. It became the second consecutive year in which Iowa reported no smallpox. Diphtheria continued the marked decline begun in 1946. Influenza has not appeared as a serious threat since the late winter of 1947. Whooping cough decreases are indicated, but probably it is a matter of poor reporting more than actual decrease of the disease. Because of early immunizations the disease is now

attacking at school age, where the case is not as severe as in the extremely young age group. Three separate groups of trichinosis cases were reported totaling 37 cases (27 in one series, 6 in the second and 4 in the third). No malaria was reported. One out of state case of hookworm was diagnosed. One large outbreak of scarlet fever, about one hundred cases, all of them mild, was reported in one of the state institutions.

TREND OF CERTAIN COMMUNICABLE DISEASES REPORTED IN IOWA 1941-1949*

Diseases	1949	1948	1947	1946	1945	1944	1943	1942	1941
Chickenpox	3,180	3,600	3,007	1,895	2,472	2,151	2,985	3,393	3,293
Diphtheria	32	60	100	187	226	203	156	187	199
Encephalitis	13	23	32	10	5	9	10	15	129
Influenza	83	48	23,215	62	660	7,743	22,709	90	3,835
Malaria	0	12	24	281	465	241	16	2	0
Measles	3,453	10,151	4,627	4,288	1,279	5,552	5,903	6,612	5,167
Meningitis Meng.	34	65	62	94	92	109	88	9	9
Mumps	3,404	3,356	1,052	1,424	2,768	1,866	2,683	3,935	5,318
Pneumonia	83	116	143	2,289	2,031	629	641	1,287	1,664
Poliomyelitis	1,217	1,260	176	620	320	204	204	72	40
Rabies in Animals.....	252	95	36	57	69	64	30	44	49
Rabies in Man.....	0	0	0	0	0	1	0	0	0
Rocky Mountain Spotted Fever.....	3	3	4	2	2	3	4	14	14
Scarlet Fever	814	1,280	1,399	1,690	2,228	4,530	2,483	1,880	1,904
Septic Sore Throat.....	27	43	32	93	20	11	69	147	192
Smallpox	0	0	3	15	10	34	26	25	114
Trichinosis	37	9	0	0	0	0	0	0	0
Tularemia	3	4	7	3	5	1	5	16	31
Typhoid Fever	7	20	46	48	50	50	43	54	93
Undulant Fever	377	412	902	638	482	295	418	333	354
Whooping Cough	188	463	1,180	1,042	275	504	1,702	1,195	1,734

*Data provisional for 1949.

VENEREAL DISEASE CASES REPORTED IN IOWA

During the past six months there has been a substantial increase in the number of cases of venereal disease reported over the total reported for the same period in 1948. In making a comparison on the basis of syphilis for the two periods it is noted that during the last half of 1948, 763 cases were reported in contrast to 1,095 during the comparable period in 1949. This represents an increase of approximately 44 per cent.

Although all phases of the state venereal disease control program have been expanded during 1949, it is felt that much of the credit for our gains is due to the ever increasing cooperation of the private physician. The tables below which are a part of the statistical supplement to the semi-annual report to the Iowa State Board of Health indicate to some extent the important contribution the private physician is making. In Table C it is noted that 74 per cent of all syphilis cases were reported by private physicians and only 26 per cent by clinics and other institutions.

A.—Venereal Disease Cases Reported by Private Physicians (July 1-Dec. 31, 1949)

Month	Syphilis: Primary Secondary	Syphilis: Early Latent	Syphilis: Congenital	Syphilis: Late Latent & Other	Gonorrhea	Other V. D.
July	11	20	7	84	48	0
August	31	33	13	90	38	0
September	17	27	7	67	37	0
October	19	23	11	72	52	1
November	28	37	9	85	49	0
December	14	20	4	85	22	0
Total	120	160	51	483	246	1

B.—Venereal Disease Cases Reported by Clinics and Institutions (July 1-Dec. 31, 1949)

Month	Syphilis: Primary Secondary	Syphilis: Early Latent	Syphilis: Congenital	Syphilis: Late Latent & Other	Gonorrhea	Other V. D.
July	4	14	2	20	25	0
August	7	10	2	28	35	0
September	10	13	10	24	17	1
October	1	16	1	24	42	0
November	6	15	3	28	37	0
December	5	10	0	28	33	0
Total	33	78	18	152	189	1

C.—Syphilis Cases Reported by Private Physicians v. Syphilis Cases Reported by Clinics and Other Institutions (July 1-Dec.31, 1949)

	All Stages		Primary & Secondary		Early Latent		Congenital		Late & Other	
	No.	%	No.	%	No.	%	No.	%	No.	%
Total Reported (July 1949-December 1949)	1095	100%	153	100%	238	100%	69	100%	635	100%
By Private Physicians	814	74%	120	78%	160	67%	51	74%	483	76%
By Clinics and other Institutions	281	26%	33	22%	78	33%	18	26%	152	24%

WHY NOT ONE HUNDRED PER CENT
FREEDOM FROM DIPHTHERIA?

While diphtheria is not the problem it once was in Iowa, cases are still being reported. The following chart for the period January 1936 to December 1949 shows the continued decline of numbers of cases in Iowa:

Diphtheria In Iowa January 1936 to December 1949		
Year	Cases	Deaths
1936	289	26
1937	179	11
1938	395	24
1939	305	15
1940	190	15
1941	199	8
1942	187	10
1943	156	12
1944	203	7
1945	226	13
1946	187	16
1947	100	3
1948	60	2
1949*	28	0

*First 9 Months

Continuation of diphtheria may have several explanations: (1) failure of parents to have even the initial immunization of their children in infancy, (2) failure to have booster immunizations before children reach school age, and (3) the belief that previously immunized school children all have and retain protective levels of immunity.

Age analysis of the 1948 cases shows a high per cent in the older age groups. From the 60 cases reported exact ages have been obtained in 32 instances. These show 12 cases below the age of 10, 5 cases aged 10-15 years, 5 aged 15-20, and 10 aged 20 years and over. The group over 20 years of age probably represents those persons old enough to have missed our present day early childhood immunization programs. Similarly, the

group of high school age most likely represents another large group; those in which no follow-up program was carried out after admission to school.

Surveys show that some areas in Iowa, usually school districts, have a high percentage of protection through all grades of their school system, others only in younger children, and still other areas have only a minimal number of any age group immunized. County surveys may show distinct differences between the percentages of rural and urban children who have been given protection.

Our problem then must be to continue protection in those areas with a good immunization program and equally to extend the work into communities shown to be lacking group protection necessary to prevent the spread of diphtheria.

MORBIDITY REPORT

Diseases	Dec. '49	Nov. '49	Dec. '48	Most Cases Reported From:
Diphtheria	11	1	2	Dickinson (3), Poweshiek (4), Woodbury (2), Ida (1)
Scarlet Fever	81	42	151	Black Hawk, Dubuque, Polk, Story
Typhoid Fever	3	2	1	Black Hawk, Muscatine, Poweshiek
Smallpox	0	0	0	.....
Measles	478	135	43	Carroll, Greene, Polk
Whooping Cough	27	12	28	Polk, Woodbury, Des Moines, Dubuque
Brucellosis	12	16	22	Scattered
Chickenpox	352	97	602	Dallas, Dubuque, Linn
Influenza	80	0	0	Polk
Meningitis, meningococcus	2	7	6	Greene, Webster
Mumps	240	87	387	Lee, Story, Woodbury
Pneumonia	6	3	8	Scattered
Poliomyelitis	48	132	108	Cerro Gordo, Polk, Scattered
Rabies in Animals	17	7	..	Polk, Johnson, Warren
Tuberculosis	58	47	65	For the State
Gonorrhea	49	81	103	For the State
Syphilis	173	158	171	For the State

The JOURNAL of the Iowa State Medical Society

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Vol. XL FEBRUARY, 1950 No. 2

Comments on the Special Meeting of the House of Delegates

At the request of the Board of Trustees Dr. N. G. Alcock, president, called a special meeting of the House of Delegates for Sunday, January 15, in Des Moines. Letters announcing the special call were sent to all county society secretaries and to all delegates. Reservation cards were sent to the delegates so that they might signify their intention of being present for the dinner Sunday noon. Five days before the meeting telegrams were sent to all delegates from whom no reservation card had been received calling their attention to the meeting and asking them to attend.

As is to be expected in January, the weather was uncertain. Roads were icy in northwest Iowa so not all of the delegates from that section were able to attend. Others have notified us since Sunday that they were prevented from coming by road conditions. Fifty-three counties were represented, however, with 52 delegates, 9 alternates and 9 State Society officers, plus other members, bringing the total attendance to 87.

A full report of the meeting will be found on page 83 in this issue of the JOURNAL. Highlights are as follows: Following a report by the Board of Trustees of the financial status of the State Society, the House voted to make the dues for 1951 fifty dollars and to empower the trustees to hire a physician full time to coordinate the work of the Society; authorized the president to appoint a committee to bring in rules and regulations for the formation of a state grievance committee in April; voted life membership

to a past president, Dr. Charles B. Taylor of Ottumwa; and took under advisement the nominations to be made at the annual meeting in April.

Is the Medical Profession Restricting Enrollment of Medical Students?

The *Des Moines Sunday Register* of January 8 carried excerpts of an address delivered by Virgil M. Hancher, president of the State University of Iowa, before a meeting of the Association of American Medical Colleges held in Colorado Springs in November. Mr. Hancher is quoted as saying "For the last nine years I have been a layman greatly concerned with problems of medical education and with the relations of the profession and its individual members to the society which they serve—and, as such a layman, have been forced to the conviction that the most urgent and important of all the responsibilities of medicine is its responsibility to see that it is understood by the vast body of men and women who constitute that vague thing called 'the public.' Now one of the things that the public appears to believe is that there is an acute shortage of doctors and an undersupply of medical services, especially in the rural areas. For the moment, I am not concerned with the truth or falsity of the belief. I am concerned with the fact that the belief exists. And if the belief exists and continues to exist, even though it be false, you and I will see action predicated upon it. For that reason it is vital to the future of the medical profession that it have available to its use the facts concerning the profession and its services to the public, and that it tell its story so clearly and understandably that no unwise action will be taken to undermine the strength and standing of your profession."

At a meeting of this same group in Cincinnati a committee of prominent college leaders studying preprofessional education attacked the medical profession proper for restricting the number of students who might enter medical school. In the debate which ensued the following portion of their resolution was deleted: "Annually, several thousand students fully qualified in training, personality and temperament are denied admission to the professional training of their choice." The deletion was made because it was pointed out a good many people did not believe the statement to be true and that if it were passed it would alienate many medical men.

The *Des Moines Register* on January 11 followed both of these articles with an editorial entitled "Can We Expand Our Medical Schools?." The final paragraph of the editorial contained this statement: "The doctors can only hurt themselves

and the cause of medicine by refusing to face up to the issue of a shortage of medical care."

For the sake of the record, the JOURNAL presents herewith some of the facts of the case here in Iowa. We do not pretend to speak for other states, but we do know what prevails in our own state.

First, the College of Medicine has never of its own accord come to the State Medical Society for counsel or assistance. The medical profession has had nothing to say about how many students should be admitted each year to the College. From comments made by many physicians over the past few years it is our firm conviction that they have wanted more students trained. We have heard a good deal of criticism because many potential students could not enroll.

Second, when the Legislature in 1949 tried to make it mandatory that the University admit more medical students if it were to obtain its appropriation, it was not the medical profession that objected; rather it was the president himself, Mr. Hancher, and the executive dean, Mr. Jacobsen, who said it was impossible to do so. In all fairness to them it must be stated that they have worked on the problem of taking in more students, and they hope to accept 120 in the fall of 1950, rather than the 90 they have been enrolling the past several years.

The State Society's Committee on General Practice and the Iowa chapter of the Iowa Academy of General Practice have been working with the medical faculty in an effort to train more general practitioners for the state. Iowa is predominantly rural, and the great need is for general practitioners who can serve the rural communities. The physicians who are now doing that type of practice are striving to have a type of training set up at the University which will turn out men qualified to do the same type of work. It might be said that in a sense they are trying to have physicians trained to compete with them, but they do not feel that way. They realize the need that exists for that type of care and are lending every effort to meet it.

At the time this editorial is written the College of Medicine has 137 residencies planned for July 1, and it is hoped six of them may be in general practice. This is certainly better than none, but the ratio to that of specialists still leaves much to be desired. Again, in all fairness, let us say that the doctors on the faculty at the University are working with the men in private practice from the State Society and the American Academy of General Practice and without doubt the number will be increased as time goes forward. By the very nature of things the members of the faculty are specialists in their own fields, hired to teach

their specialty to the students in the college, and it is only natural they should see the problem of specialists more clearly than that of general practitioners.

It is true, too, that in Iowa the men with final authority are not medical men. Since Dr. Soley's death a five man committee from the medical school has been functioning in the dean's capacity, but over it is the executive dean, Mr. Jacobsen, and in the end, the president of the University itself.

Certainly in Iowa the medical profession has had nothing to say as to how many students should be admitted to the medical school. As said earlier it is our belief that most physicians have wanted more rather than fewer students trained, but the University authorities are the ones who set the quota.

Mr. Hancher made these statements also: "I do not wish to see your profession become a ward of the state or dominated or controlled by it. Yet I fear that just that thing will come to pass if for any extended period of time the public has the conviction that there is a real shortage of doctors and an undersupply of medical service, and that the medical profession is not doing all in its power, in conjunction with all forward-looking citizens, to see that the shortage is met and the need is supplied. . . ."

We feel sure Mr. Hancher is aware of the efforts being made by the physicians of Iowa to have more men trained to serve the rural areas of the state; we are confident that the program of providing residencies for general practice will be expanded by the University; and we restate our conviction that the medical profession is ready and willing to do all it can in cooperation with the University officials to provide the people of the state with an adequate number of physicians and a medical service of which we can all be proud.

Diabetes in Pregnancy

Prior to 1921 the incidence of a viable baby in a diabetic mother was the exception rather than the rule. About 1 out of every 1,000 deliveries is complicated by diabetes. Since the use of insulin, maternal and infant mortality has approached the normal rate. Insulin demand for the mother during pregnancy is unpredictable and becomes an individual problem.

Some of the effects of diabetes in pregnancy include an increased spontaneous abortion rate. The use of stilbestrol throughout pregnancy has been helpful in reducing this rate. Toxemias of pregnancy are greatly increased. Fetal death in utero is more common in diabetes, usually occurring during the last month. The excessive

size of the fetus is the rule rather than the exception in diabetic mothers. Complications of pregnancy such as hydramnion, malformations and neonatal complications such as anoxia may be anticipated. A maternal mortality rate of 25 per cent in untreated mothers may be reduced to a rate of 0.2 per cent. Corresponding fetal death rates of 70 per cent in untreated mothers may be expected to fall to 11 per cent.

Babies born to diabetic mothers usually present an increased birth weight; the heart is frequently enlarged; extramedullary hematopoiesis is common; there is hyperplasia of the islands of Langerhans, and there is usually an increase in the size and weight of the adrenals and anterior pituitary body. These latter conditions are probably the result of some glandular dysfunction.

Proper care of the diabetic mother will result in more living, healthy babies.

Preschool Institute for Parents of Visually Handicapped Children

For several years The Iowa School for the Blind has been holding a preschool institute for mothers and their visually handicapped children, with the purpose of familiarizing parents with the most modern methods for the care and training of the child. The tentative dates for the 1950 institute are May 30 through June 4.

A program of counseling, instruction and guidance is being prepared which will better enable parents to utilize technics known to be helpful in bringing out social and emotional development. There will be talks by specialists on different aspects of child care and training, eye, medical and psychologic examinations, demonstration classes by teaching personnel of the Iowa School for the Blind, individual and group conferences and a daily recreational period. Mothers who may never have seen any blind children other than their own will have an opportunity to compare notes with other mothers.

Preschool children between the ages of 18 months and 5 years who have a serious visual handicap and who are not mentally developed will be admitted. The only cost to parents for this institute will be transportation to and from Vinton, Iowa. Room, board, laundry and other maintenance costs as well as the expenses of the medical, eye and psychologic examinations will be paid by the Iowa School for the Blind.

Ophthalmologists, optometrists and others who contact parents of visually handicapped children are asked to inform the parents of this institute.

For further information they may write to Mr. D. W. Overbeay, Superintendent of the Iowa School for the Blind at Vinton, Iowa.

NATIONAL CONFERENCE ON MEDICAL SERVICE

Twenty-Third Annual Meeting

Sunday, February 5—Palmer House, Chicago, Ill.

MORNING PROGRAM

- 9:00 REGISTRATION: Foyer of Red Lacquer Room, Fourth Floor, Palmer House.
- 9:30 CALL TO ORDER:
Appointment of Committees.
Address of the President.—John S. Bouslog, M.D., Denver, Colo.
- 9:50 A POSITIVE PROGRAM TO IMPROVE DENTAL HEALTH.—Philip E. Adams, D.D.S., President, American Dental Association, Boston, Mass.
- 10:10 THE A.M.A.'S PUBLIC EDUCATIONAL PROGRAM TO DATE.—George F. Lull, M.D., Secretary of the A.M.A.
- 10:40 CO-ORDINATION COMMITTEE ON LEGISLATION OF THE A.M.A.—Harvey Stone, M.D., Baltimore, Md.
- 11:00 ADDRESS.—Ernest E. Irons, M.D., President, A.M.A.
- 11:20 PROBLEMS ARISING IN MEETING THE CHALLENGE OF COMPULSORY HEALTH INSURANCE.—Mr. Ray Murphy, Vice President and Actuary, Equitable Life Assurance Society.
- 11:40 DISCUSSION PERIOD.

NOON PROGRAM

- 12:15 SUBSCRIPTION LUNCHEON.
- 1:00 PERSONAL OBSERVATIONS OF SOCIALIZED MEDICINE IN ENGLAND.—Congressman James I. Dolliver, Iowa. Member, Sub-Committee on National Health Insurance Legislation of the House Interstate and Foreign Commerce Committee.

AFTERNOON PROGRAM

- 2:00 MEDICAL PROBLEMS OF THE FARMERS AND THEIR REACTION TO GOVERNMENT MEDICINE.—Mr. Allan B. Kline, Chicago, Ill., President, American Farm Bureau Federation.
- 2:20 PRESERVATION OF THE PROFESSIONS.—Mr. George Brand, Detroit, Mich., President, American Judicature Society.
- 2:40 LEGISLATIVE PROBLEMS IN WASHINGTON.—Joe S. Lawrence, M.D., Director of the Washington Office, A.M.A.
- 3:00 THE DOCTOR AND HIS COMMUNITY.—Mr. William H. Book, Indianapolis, Ind., President, Chamber of Commerce Executives.
- 3:20 SECOND ANNUAL REPORT. MEDICAL PROGRAM OF THE UNITED MINE WORKERS OF AMERICA WELFARE AND RETIREMENT FUND.—Warren F. Draper, M.D., Executive Medical Director.
- 3:40 DISCUSSION PERIOD.
- 4:10 REPORT OF COMMITTEES AND ELECTION OF OFFICERS.
- 4:40 ADJOURNMENT.

(All papers will begin exactly as scheduled. No speaker will be allowed to speak overtime.)

President's Page

At the emergency meeting of the House of Delegates held in Des Moines Sunday, January 15, the delegates voted to increase State Society dues for 1951 from twenty-five dollars to fifty dollars. This enables us not only to continue to increase our present activities but also to employ a full time man who will act in the capacity of business manager, who will be able to coordinate our various programs and bring continuity to our over-all policy. The officers of the Society appreciate not only what the House of Delegates did but the manner in which it was done.

The Delegates of the Society represent you, and from the action taken in Des Moines last Sunday we are heartened by the fact that the spirit in the Society is so unified and so energetic. It gives us great encouragement for the very trying months ahead, and, speaking for the officers, I wish to assure you that we will embrace the opportunity to carry on our campaign more intensely and more vigorously.

I think your attention has previously been called to the fact that the national Democratic administration plans to enter into the congressional election campaigns next summer, and that their objective is to go all-out for electing men who will be in favor of the so-called "welfare" or "farewell" state. The months ahead, then, are the ones in which we must intensify our efforts and protect not only the freedom of medical service but the freedom of all individuals.

Nathaniel G. Alcock, M. D.

President, Iowa State Medical Society

SUMMARY OF HOUSE OF DELEGATES MEETING

Iowa State Medical Society

Sunday, January 15, 1950

Hotel Fort Des Moines

Des Moines, Iowa

The special meeting of the House of Delegates was called to order at 10:00 a.m. Sunday morning, January 15, 1950, by the speaker, Dr. T. F. Thornton of Waterloo.

Roll call showed the following persons present:

Black Hawk.....	E. L. Rohlf
	T. R. Trunnell
	T. F. Thornton
Boone	H. C. Scharnweber
	B. T. Whitaker
	W. H. Longworth
Buchanan	R. L. Knipfer
	H. A. Housholder
Buena Vista.....	H. E. Farnsworth
Butler.....	F. A. Rolfs
Carroll.....	J. M. Tierney
Cerro Gordo.....	L. R. Woodward
	C. O. Adams
Chickasaw.....	P. E. Gardner
Clay.....	E. E. Munger
Clarke.....	C. R. Harken
Clayton.....	P. R. V. Hommel
Clinton.....	R. F. Luse
Dallas-Guthrie.....	C. A. Nicoll
	H. W. Smith
Decatur.....	G. P. Reed
Delaware.....	H. H. Ennis
Des Moines.....	C. J. Lohmann
Dickinson.....	T. L. Ward
Dubuque.....	D. C. Conzett
Emmet.....	J. P. Clark
	M. T. Morton
Fayette.....	M. G. Beddoes
Floyd.....	J. B. Miner, Jr.
Greene.....	M. H. Brinker
Hamilton.....	F. F. Hall
Hancock-Winnebago.....	C. V. Hamilton
Hardin.....	R. E. Gray
Iowa.....	C. F. Watts
Jasper.....	J. W. Billingsley
Jefferson.....	L. D. James
	D. L. McGuire
Johnson.....	R. T. Tidrick
	L. E. January
	S. C. Ware
	R. H. Flocks
	N. G. Alcock
Keokuk.....	D. L. Grothaus
Linn	A. W. Erskine
	C. H. Stark
Lucas	Dean Curtis
	R. C. Gutch
Madison.....	I. K. Sayre
Marion.....	R. V. Mater
Marshall.....	L. O. Goodman
	O. D. Wolfe
Monroe.....	C. C. Fowler
Muscatine.....	C. P. Phillips
Page.....	G. H. Powers
	Kenneth Gee
Palo Alto.....	W. A. Johnson
Plymouth.....	W. L. Downing
Pocahontas.....	C. L. Jones
Polk.....	A. B. Phillips
	N. B. Anderson
	Fred Sternagel
	J. A. Downing

	H. J. Smith
	M. T. Bates
	W. L. Bierring
	F. C. Coleman
	E. M. George
	Martin Olsen
	Van C. Robinson
Pottawattamie.....	C. V. Edwards
	G. V. Caughlan
Poweshiek.....	S. D. Porter
Scott.....	W. C. Goenne
	George Braunlich
Story.....	E. B. Bush
	Bush Houston
Union.....	J. L. Hoyt
Van Buren.....	L. A. Coffin
Wapello.....	C. A. Henry
Warren.....	L. E. Hooper
Wayne.....	C. N. Hyatt
Webster.....	E. M. Kersten
	Herbert Kersten
Woodbury.....	F. D. McCarthy
	E. M. Honke
	R. N. Larimer
	J. E. Reeder

Dr. Alcock was called upon first to give a few remarks about the reason for the meeting. He spoke of the attempts being made to foist compulsory health insurance upon the country and mentioned the dangers of the bill for federal aid to medical education. He then stressed the same sentiment he had expressed in his JOURNAL page in January, namely, that it might be well to employ a physician full time to coordinate the work of the State Society and make it effective on all fronts in opposition to the threats of government medicine.

Dr. Thornton in his talk gave some facts and figures about government costs and also stressed the need for continued activity on the part of the doctors in Iowa. He then called upon Mr. I. W. Myers, legal counsel, and Mr. Myers pointed out the findings of the Iowa Poll as given the last two Sundays in the *Des Moines Register*. The poll on January 8 showed a greater percentage of persons opposed to compulsory health insurance than there were a year ago; the poll January 15 gave the percentage of persons who had put off going to a doctor because they could not afford it. Both showed a favorable trend, but Mr. Myers said our efforts should be continued so that the trend might not be reversed. He also spoke of the need for closer contact with state legislators by the doctors on a county and district level. He urged that the physicians participate as actively as possible in civic matters and said again it would be helpful if some physicians would run for office. Their advice is often sought by other members of the legislature when health matters are concerned.

Dr. Thornton then called on the three delegates to the American Medical Association to give a brief report of the December session. Dr. Braunlich spoke

first, going into some detail about the levying of \$25 dues by that group. He was followed by Dr. Caughlan and Dr. Conzett who gave highlights of the meeting as they saw them.

Dr. Whitaker of the Board of Trustees was next given the floor and his report is given verbatim:

Report of the Board of Trustees

The Board of Trustees asked that the House of Delegates be called for this special session because they felt the time had come to sit down and talk over affairs of the Society when everyone would have time to participate in the discussion. For several years our annual report to you has pointed out that a deficit had occurred, and twice in the last five years we have recommended higher dues. Last April you voted approval of our recommendation that dues be \$25 for 1950. When we began to set up the budget for 1950, however, we found that even this increase in dues will not give us sufficient funds to carry on the projected activities without running in the red.

Possibly a brief resumé of our reports for the last few years might help bring this whole matter into focus. In 1946 we reported to you that the year 1945 had brought about the biggest drain upon the treasury of all the war years. At that time we waived dues for 653 members. The deficit for the year was \$5,-653.75, and bonds were sold to cover this.

Public relations was much discussed that year, and a radio program which would cost about \$1.00 per member was approved but did not materialize. The Executive Council did approve of an expanded public relations program, however, and recommended that the dues be raised \$5 per member to cover the cost of such a program. This recommendation was accepted,

and so in 1947 we began collecting \$15 rather than \$10 from each member.

In 1946, however, we were still collecting only \$10. In that year we had a net income of \$1,436.80, but with the return of physicians from service we began expanding the many activities of the Society that had been dormant during the war. Our report for 1946 spoke of the need for activating the Speakers Bureau and for supporting Iowa Medical Service both in its prepayment plan and the veterans program. We also reported we felt the committee members who were working actively on these projects should keep in touch with national efforts, which meant travel expense to attend meetings at which mutual problems are discussed.

In 1947, the first year we collected dues of \$15, we had a net income after expenditures of \$7,581.42. Our public relations work got under way, and by the end of the year it was evident that, if we were to succeed, our first job was to get more doctors signed up in Iowa Medical Service so that Blue Shield coverage might be sold in more parts of the state. Probably we all agree that our first line of defense in the battle against government medicine is a strong voluntary plan which provides the protection people need against unexpected medical costs. Up until this time most of the work in getting doctors to sign up in Iowa Medical Service had been done through the office by mail, with some personal work by physicians in their own counties. The need for having someone who could get out into each county and explain the plan to the individual doctors and obtain their cooperation was acute by the end of 1947, and the trustees agreed with the Committee on Medical

Table 1.—Comparison of Balance Sheets

	1939	1944	1948	1949
INCOME				
Annual Session	\$ 3,101.00	\$ 3,116.00	\$ 5,680.70	\$ 5,133.00
Dues	22,325.00	16,352.00	32,194.25	32,665.00
Interest on Bonds	1,393.13	1,086.00	1,268.75	1,220.00
Interest on Savings	32.40	39.44	20.12	32.19
JOURNAL				
Advertising	7,590.07	10,981.70	16,581.22	15,320.75
Reprints	1,347.94	1,219.35	2,317.69	1,073.03
Speakers Bureau	1,766.75	20.00	953.09	1,009.18
Miscellaneous	125.79	168.90	197.66	1,490.59*
Total	\$37,684.08	\$32,977.39	\$59,213.48	\$57,943.74
EXPENDITURES				
Administrative Miscellaneous	\$ 692.66	\$ 1,052.58	\$ 2,343.93	\$ 2,740.91
Annual Session	3,379.92	2,890.86	4,490.44	5,101.41
Council	1,015.25	651.23	544.45	323.71
County Society Services	148.16	3.44	85.43	144.94
General Salaries	5,005.90	5,897.20	8,373.69	9,831.11
JOURNAL				
Salaries	3,514.80	3,636.00	4,426.26	3,385.35
Printing and Engraving	8,066.91	9,357.99	16,090.86	17,795.25
Reprints	1,067.65	1,123.09	2,081.20	964.34
Legislative Committee	4,500.00	4,500.00	4,500.00	5,100.00
Medical Economics Committee	191.87	209.71	.....	.....
Medical Service and Public Relations .....	.....	.....	10,509.68	17,248.18†
Medicolegal Committee .....	.....	.....	1,654.37	.....
Other Committees	878.19	2,484.67	1,800.00	1,127.81
Rent and Office Supplies	1,868.55	1,680.34	3,907.36	4,261.64
Stationery and Printing	619.24	476.06	.....	.....
Speakers Bureau				
Salaries	1,492.50	.....	1,887.19	1,994.85
Travel, Printing, Etc.	2,935.45	274.43	1,084.96	2,020.97
Bank Charges	1.55	.....	.....	.....
Trustees	163.71	49.92	166.89	168.58
Total	\$35,542.70	\$34,287.52	\$63,946.71	\$72,209.05
NET INCOME	\$ 2,141.38	\$ 1,310.13	\$ 4,733.23	\$14,265.31
DEFICIT				

*Includes refund for Medical Service and Public Relations of \$1,254.20

†Refund of \$1,254.20 received on this

Service and Public Relations that we must have a field secretary who would do this.

Accordingly, Don Taylor was hired to come to work Feb. 1, 1948, to serve as contact man between the state office and the individual doctors in the state. How valuable his work has been is attested by the fact that only two counties remain in which the doctors have not signed up as participants. Don's work has not been limited to this phase, however: He has made many talks before different groups on the dangers of government medicine; he has aided in pharmacist-doctor meetings; he has worked with many organizations and secured their cooperation; he has also aided several counties in presenting radio programs.

In our report for the year 1948 we said the following, and since it holds even more true today, we are quoting:

"As the activity of the Society increases, its financing becomes a greater problem. In a business, increased activity is supposed to stimulate sales and promote increased income. In our type of organization where the main source of revenue is dues from members we are dependent upon the number of members and the amount of dues. If we do not increase the dues, we cannot hope for much increase in income, because the number of doctors does not increase greatly."

In that report we next went into detail about the different departments of the Society, showing what the income had been and how the expenses had increased. We think these figures should be called to your attention again, and for that reason we have prepared the mimeographed material which you were given when you entered the meeting, and we have also made the charts here which portray it even more graphically.

The first table shows a comparison of balance sheets for four different years. We took 1939 because it was ten years ago and also because it was a big year in activities and very representative of the work being done by the Medical Society in Iowa prior to the war. We next took 1944, a five-year jump, and while it may not be representative it does show the decreased activity during the war. Both 1948 and 1949 were used to show the increase in one year only. As most of you know, we hired a second field secretary in 1949, Mr. Tom Garbett, who came to

work September 1. He serves us half time and Iowa Medical Service half time.

You will note that we had a surplus only in 1939; all the other years showed a deficit.

The second table shows a comparison of various items which indicate the increased activity. Printing costs have shown a marked rise. Postage jumped to \$1,400 in 1949, most of this being due to the educational campaign and also to increased activity in the Speakers Bureau. Stationery and printing also increased enormously. In the first six months of 1949 the State Society had about 140,000 pamphlets printed for distribution; in the last six months, even with the material supplied by Whitaker and Baxter, we printed about 100,000 different pamphlets. We also printed half a million enclosures for commercial insurance companies in the second quarter.

Telephone and telegraph have not increased particularly. The figure in 1939 was \$597.18; in 1949 it was \$776.72, but this included a tax of 25 per cent which was not imposed in 1939. The telephone is a great time-saver, but we have always tried to use it economically, and I believe the figures show that this has been done.

Railway express shows definitely the mailing done from the central office. From nothing in 1939 it has increased to \$121.67 in 1949, and parcel post which was used for the smaller packages is not reflected in this figure. I don't believe you can imagine the work involved in taking care of mailing out the number of pamphlets. We are crowded for office space at best, and it has been an arduous problem to do this without disrupting regular office work; yet it has been done. At one time last spring, from March 1 to July 15, Miss McCord and Mrs. Dolk occupied an office 11 by 12 feet, both using the same desk, and at the same time members of the Woman's Auxiliary worked at that desk with them on the distribution of pamphlets to Des Moines firms.

The item of mimeograph supplies indicates somewhat the increase in work, as does the number of checks written in a year.

The maintenance cost of typewriters and addressograph shows graphically how expenses have increased in that period. The number of employees in 1939 was six, and in this are included the secretary and editor. In 1949 we have nine employees, again with the secretary and editor included.

Table 2.—Other Comparisons for Four Different Years

	1939	1944	1948	1949
Postage	\$ 173.71	\$ 600.00	\$ 821.00	\$ 1,400.00
Stationery and Printing	1,762.71*	269.63	640.02	4,161.05
Cash	123.00	205.00	215.00	306.51
Telephone and Telegraph	597.18†	427.13	478.54	776.72
Railway Express		23.18	25.03	121.67
General Salaries	5,005.50	5,897.20	\$,373.69	9,831.11
Mimeograph Supplies .....	.....‡	38.49	290.23	260.36
Average Cost Auxiliary News page per month	6.00	6.63	15.00	19.00
Average Cost of Printing JOURNAL—monthly	585.00	700.00	1,150.00	1,300.00
Addressograph Maintenance		4.75	9.25	10.50
Typewriter Maintenance		7.50	11.09	11.09
Number Checks Written in Year	507	380	563	709
Number of Employees	6	5	6 —1 month 7 —9 months 7½—2 months	7½—3 months 8½—5 months 9 —3 months

*Includes stamped envelopes and accounts for low postage figure

†No federal tax as there is today

‡Included under stationery and printing

Table 3.—Comparison of Journal Figures for Four Years

	1939	1944	1948	1949
Reading Pages	640	532	560	594
Advertising Pages	320	396	440	402
Original Articles	107	50	77	72
Editorials	55	53	53	59
Income				
Advertising	\$ 7,590.07	\$10,981.70	\$16,581.22	\$15,320.75
Reprints	1,347.94	1,219.35	2,317.69	1,073.03
Total	\$ 8,938.01	\$12,201.05	\$18,898.91	\$16,393.78
Expense				
Salaries	\$ 3,514.80	\$ 3,636.36	\$ 4,426.26	\$ 3,385.35
Printing and Engraving	8,066.91	9,357.99	16,090.86	17,795.25
Reprints	1,067.65	1,123.09	2,081.20	964.34
Total	\$12,643.35	\$14,417.08	\$22,598.32	\$22,144.94
Deficit to be Paid From Dues	\$ 3,705.34	\$ 1,916.03	\$ 3,699.41	\$ 5,751.16

Table 4.—Comparison of Speakers Bureau Costs for Four Years

	1939	1944	1948	1949
Income	\$ 1,766.76	\$ 20.00	\$ 953.09	\$ 1,009.18
Expenditures				
Salaries	1,492.50	None	1,887.19	1,994.85
Travel, Printing, Etc.	2,935.45	274.43	1,084.96	2,020.97
Total	\$ 4,427.95	\$ 274.43	\$ 2,972.15	\$ 4,015.82
Deficit to be Paid From Dues	\$ 2,660.20	\$ 254.43	\$ 2,019.06	\$ 3,006.64

The third and fourth tables show a comparison of JOURNAL and Speakers Bureau costs for the same four years.

Table 5 shows how the work of the Committee on Medical Service and Public Relations has grown and how the funds of the committee have been expended.

In table 6 we show you the estimated budget for 1950.

We estimate the income from the annual session will be around \$5,400. I might say in this connection, however, that we are planning to print an elaborate program for the centennial meeting and to sell advertising in it. If we are successful, we should be able to clear some money, maybe \$500, and will be saved the cost of printing the program which we usually have. Work on this is now under way.

We estimate the income from dues at \$25 a member will be about \$50,000. We have just a few under 2,100 dues-paying members, the others being life members or residents whose dues are waived. If 2,000 pay, we will reach the above figure.

JOURNAL advertising is supposed to be no less than last year, and so we hope it will be \$15,000. Reprints we find average around \$1,200 a year. The Speakers Bureau income hasn't reached \$1,200 the last two years when we have expected it to do so. Possibly we should insist that counties be financially responsible for underwriting their postgraduate courses, but we have taken the attitude that this is an educational program which should be supported by the profession and have been content to allot dues to carrying on the work.

The item of income on medical service and public relations is the refund we get from Iowa Medical Service for half of Mr. Garbett's salary and travel expenses. We pay him each month and bill Iowa Medical Service for half.

Miscellaneous income is that received for making addressograph lists of members for different firms. We used to count on \$24 a year, but the demand has been so great in recent years that the income has grown to a sizable amount.

Under expenditures, we estimate administrative miscellaneous will amount to about \$3,600 in 1950.

Annual session costs will not exceed the income, but it is hard to say what they will be exactly. They are always more when we go out of town, although we have no rental expense in Burlington.

We have allotted \$720 for the Council. It has not used this much for several years, but we have left the allotment should it need it.

General salaries are based on the actual figures of 1949.

JOURNAL costs are based on the new contract.

The tentative allotment for the legislative committee is \$5,100.

For the Medical Service and Public Relations Committee we have set up a net amount of \$18,000. This is divided about half and half between salaries and travel, printing and miscellaneous expense. Three persons, the two field secretaries and a stenographer, are included in the salary item, but half of the one salary (Mr. Garbett's) is refunded.

Table 5.—Comparison of Medical Service and Public Relations Expense

	1945	1946	1947	1948	1949
Field Secretaries' Salaries				\$3,500.00	\$ 5,620.00
Field Secretary Travel Expense				1,760.53	2,606.66
Stenographic Expense		\$ 16.00	\$ 10.00	123.28	1,754.45
Committee Travel Expense	\$561.28	659.88	721.68	1,019.43	1,150.03
Stationery and Printing	67.33	52.37	129.43	836.75	3,330.42
Telephone and Telegraph	18.57	40.16	31.55	34.31	135.79
Railway Express					29.17
Postage	20.00		215.00	161.00	465.00
Subscription and Dues			163.00	353.00	393.00
Office Furniture				159.69	
State Meeting			576.19	509.40	744.39
Miscellaneous		10.00			107.30
Totals	\$667.18	\$778.41	\$1,846.85	\$8,457.39	\$16,336.21

Travel expense of committee members has run about \$1,000 a year. Attendance has included the North Central Conference, the National Conference on Medical Service, various special meetings of the American Medical Association, and regular travel for committee meetings. Subscriptions to various services amount to about \$400. This includes the Shearon Legislative reports, the Washington Report on the Medical Sciences, yearly dues to the North Central Conference and the National Conference on Medical Service, and the Conference of Presidents.

Table 6.—*Estimated Budget for 1950*

INCOME	
Annual Session	\$ 5,400.00
Dues	50,100.00
JOURNAL Advertising	15,000.00
JOURNAL Reprints	1,200.00
Speakers Bureau	1,200.00
Medical Service and Public Relations	3,100.00
Miscellaneous	300.00
Total	\$76,300.00
EXPENDITURES	
Administrative Miscellaneous	\$ 3,600.00
Annual Session	5,400.00
Council	720.00
County Society Services	120.00
General Salaries	(1949 figures) 10,200.00
JOURNAL	
Salaries	3,500.00
Printing and Engraving	19,200.00
Reprints	1,200.00
Legislative Committee	(not definite) 5,100.00
Medical Service and Public Relations	
Salaries	(1949 figures) 11,600.00
Travel, Printing, Miscellaneous	10,500.00
Medicolegal	720.00
Other Committees	(Plus \$6,000*) 1,800.00
Rent and Office Supplies	4,800.00
Speakers Bureau	
Salaries	2,160.00
Travel, Printing, Miscellaneous	1,800.00
Trustees	360.00
Taxes	1,080.00
Total	\$84,260.00
*Plus Cost of Centennial Volume	6,000.00
	\$90,260.00
ESTIMATED DEFICIT	\$13,960.00

Medicolegal expense is estimated at \$720. Some years we have none; in other years, as in 1948, it may run two or three times this amount. This budget is a guidepost to spending, but it is not arbitrary. We try to judge what will be needed as best we can.

Other committees include all those not definitely listed in the budget we are giving you. This means Constitution and By-Laws, Finance, Medical Education and Hospitals, Cancer, Fracture, Historical, Industrial Health, Maternal and Child Health, Scientific Exhibits, and Tuberculosis, as well as Emergency Medical Service. The regular allowance is \$1,800, but we have already approved of the publication of a centennial volume of history of medicine, the cost of which is not to exceed \$6,000. Consequently, the allotment for the other committees division is \$1,800 plus this \$6,000.

Rent and office supplies is budgeted at \$4,800 a year, \$600 of which goes to replacement of office furniture or equipment.

Speakers Bureau figures are based on probable activity in 1950.)

The figure for trustees is to cover travel expense of the trustees to their meetings. They are supposed to hold nine a year.

Taxes are higher because with more than seven employees we are liable for unemployment insurance. Social security taxes also increase to 1½ per cent in 1950, and we now pay county taxes, no longer being exempt.

The estimated income under this budget comes to \$76,300, and, as we said previously, we will try to make something from the program. That amount of \$500 is not great, but it will also erase a cost of about \$300, making a net gain of \$800 if our plans work out.

The expenditures which appear to us to be necessary to carry on the work at the present tempo amount to \$84,260, and when to this is added the \$6,000 we are obligated to pay for the historical volume, to \$90,260. This puts us right up against a deficit of \$13,960.

The question now arises as to what the members want of us. You as delegate from your county must indicate to us what you think your colleagues want us to do. We as trustees are responsible for the funds of the Society and we expend them as we think the members want us to do.

Let's go down the line of expenditures. Administrative miscellaneous covers the travel expense of the president and president-elect, of the delegates to the American Medical Association, and of the office personnel who are sent to meetings. We think you would want us to pay the travel expense of your officers to the various meetings they attend in the state. They make frequent trips to Des Moines to meet with the various committees; they also make many visits to your county and others. We think you want us to pay the expenses of the men you elect to represent you at the American Medical Association. You know, too, that there are now two meetings of that body instead of one each year, which means added expense. No need to tell you that it costs more to travel nowadays, too.

We have sent the executive secretary to the AMA meetings also, since she has to carry out the actions of that group and work them into our own activities. She is also sent to the AMA secretaries' conference and to some of the sectional meetings which are felt to be of value. Since she is responsible for coordinating the work of the State Society, she must know what is being done on a national level and in the states close to us.

Our constitution says we must have an annual session, and hence that expense is necessary. Every effort is made to keep it within reason, but there are certain items which we must pay.

The amount set up for Council and county society services is tentative. If not used, it reverts to the general funds.

Salaries as set forth show no increase for 1950, covering the same employees as in 1949 at the same figures. Some increases may be granted.

The JOURNAL expense is fairly definite. The editor's salary and that of the assistant editor are covered; printing costs are regulated by the contract we have with the Wallace-Homestead Company, and reprint cost is balanced by income. If we are to have

a JOURNAL, it looks as if it would have to be subsidized to a certain extent. Our advertising is limited to products that are Council accepted, and that cuts down the field. Possibly we might obtain more local advertisements. We have had this possibility in mind as an area of income to be explored.

The budget for the legislative committee has not been established definitely yet. We know we are going to have to work strenuously to keep certain forces from getting the basic science law repealed. We feel this can best be done at home by you and your colleagues who know your legislators. Even so, there will be a certain amount of necessary expense incurred, and we feel you want us to grant as much money for this purpose as is felt necessary.

The budget for the Committee on Medical Service and Public Relations has received possibly the most study of all. We have estimated the salary expense, the probable travel expense of the two field secretaries, the travel expense of committee members, and here again the question arises as to how many meetings should be attended. We have estimated what printing we will need, what postage and stationery, and all of the expenses incurred by an active committee.

We trustees met on November 27 to consider this budget. At that time the estimates were higher than appear in this budget. We met again December 18 and did as much pruning as we felt we could and should do. By the time we had spent a whole day on it, we knew we needed your help and counsel. How far do you want us to go in deficit financing? Where do you want us to cut expenses if you wish us to keep the Society living within its income?

Maybe you would like to know dues other states are paying. Here are some of them:

California.....	\$50 in 1949 and 1950
Colorado.....	\$50 in 1949 and 1950
Wisconsin.....	\$50 in 1949 and 1950
Oklahoma.....	\$42 in 1949 and 1950
Minnesota.....	\$30 in 1949 and 1950
Kansas.....	\$25 plus a \$35 assessment
Illinois.....	\$15 in 1949—\$20 in 1950
New Jersey.....	\$24 in 1949—\$30 in 1950
Michigan.....	\$12 plus \$25 assessment
North Carolina.....	\$25 in 1949—\$40 in 1950 plus \$5 assessment

Our surplus as of January 1 was \$47,932.85. That will last about three years if our present rate of depletion continues. Where do we go from here?

We must either have more income or we must cut expenditures. We trustees don't think you want us to cut the services you are now receiving. In fact, the evidence is all to the contrary. Almost each week the office force is asked to take on more work for the doctors of the state.

More income can be gained from an assessment or from another increase in the dues; a small amount might be obtained from the annual session by raising the price for exhibit space, and more might be obtained from local advertising.

If we are to cut expenditures, then we would like your suggestions as to how this can be done.

We have said we doubt whether you wish us to cut down the activities. We are being confronted with more and more demands from our members for activity of one type or another and for attendance at more meetings. We need to maintain close contact with our Washington representatives. This is almost a full time job; it is definitely a drain upon the time of one man.

There has been a feeling expressed by many physicians that possibly the State Society should employ some physician full time who could take care of the Washington contacts and many of the other contacts which should be made by a professional man rather than an employee. Possibly such a physician working full time could relieve some of the office personnel for other duties such as obtaining advertising for the Journal and increasing income in other ways. It would certainly be to our advantage to have a man fully conversant with State Society activities who could act as our public relations doctor and at the same time work with and for the profession. Dr. Alcock has expressed this feeling in his president's page in the January JOURNAL.

Again, this would add to our expenses, but there are some of us who feel it would be money well expended. All of us are working under far greater pressure than we did in 1939. We don't have the time or energy to devote to our profession, much as we would like to do so. It is probably safe to say that in 1939 there were ten times as many physicians working actively on State Society matters as there are today. We are asking a great deal from a few.

It may well be that in a time like this, when our professional load is heavy and our income good, we can and should pay higher dues and employ a physician to do the footwork for us. We feel such a man should have as part of his responsibility, however, the duty of interesting physicians in the state who would like to participate in State Society affairs and of indoctrinating them with the policies and principles on which we have worked through the years.

The matter of our Washington contacts alone is very important. It would be almost impossible to maintain them as we have under Dr. Bernard unless he were to work with the man to succeed him. Probably we should not rely on one man alone in work like this but should have several who are familiar with it and can carry on. It has been difficult, if not impossible, to spare the time to train them the last year or so. A full time physician should be able to devote some of his time to such training.

In the final analysis, we trustees think we need to embark on a program of training new and younger men in State Society affairs. We think this training should be done by a physician who is thoroughly conversant with the State Society who is employed on a full time basis on a contract of several years' duration. We recommend for your consideration the creation of such a post and approval for hiring such a physician if one can be found. We do this with the

full realization it will cost you more money than you are now paying into the State Society, but it is our firm belief it will be money well expended and will lead to a strengthening of the State Society on all fronts.

This is a long statement, but we feel you should have all of the information contained in it. We are asking your advice on two matters, and we suggest we discuss first the financial picture and how to meet it, and then the idea of hiring a physician full time to act as a coordinator and manager.

Dr. Larimer then presented large graphs illustrating the figures contained in the report and elaborating on certain phases of the report of the trustees.

Dr. George then submitted the following report of the JOURNAL:

Report of the Journal

The Editorial Board of the JOURNAL of the Iowa State Medical Society met on January 8, 1950, in Des Moines at the request of the Board of Trustees.

The Board was most unhappy to learn that the deficit for the JOURNAL for 1949 amounted to \$5,741.16, an amount far in excess of previous years. It should be pointed out that in the face of rising costs of publication, the JOURNAL'S income from advertising and reprints decreased approximately \$2,500 or to all intents and purposes 50 per cent of the deficit of 1949, while the publication costs increased approximately \$1,800. Had these two items totaling \$4,300 not existed, there would have remained a deficit comparable to former years.

It has been the opinion of the Board that the JOURNAL should be published to disseminate constructive material by and for the physicians of Iowa. The revenue accruing to the JOURNAL is in the main dependent upon the Cooperative Medical Advertising Bureau conducted by the American Medical Association. The possibility of the solicitation of local advertising was discussed, although the amount so obtained would probably be limited. It did not seem feasible to employ a solicitor for advertising as such an individual would have to be paid a sizable salary. The only recommendation to decrease publication costs would be to limit certain sections of the JOURNAL, more particularly the amount of space devoted to Book Reviews and the Auxiliary.

Several criticisms have been received that the material presented in the scientific articles neglects the general practitioners. It was recommended that a general practitioner be added to the Editorial Board, and Dr. A. G. Felter of Van Meter has accepted this appointment.

It was also the recommendation that the secretaries of each county medical society, the secretary of each special society, more especially the Upper Des Moines Valley and Sioux Valley Medical Societies, and the secretaries of the specialist associations of the state, such as x-ray, orthopedics, EENT, anesthesia, G-U, etc., be requested to keep the JOURNAL better informed of their transactions and to furnish the JOURNAL with any outstanding paper or papers

presented at any of their sessions throughout the year which would prove of value to the general practitioner. It was also pointed out that there are many physicians who are members of the House of Delegates or the State Society who could assist materially by taking the time to furnish the JOURNAL with the original articles relating to subjects of interest to the general practitioner.

The Editorial Board beseeches each member of the House of Delegates to give our problems some serious consideration and furnish constructive criticism for the improvement of the JOURNAL. We still believe that the publication of our own state journal offers distinct advantages and that it should continue to occupy its peculiar position in the State Society program. Our only concern is to continue to improve its value to each and every member of the Society. Your cooperation is earnestly solicited.

	1947	1948	1949
Reading Pages	572	560	560
Advertising Pages	512	440	402
Percentage of Reading Pages	52.8%	56.0%	59.6%
Original Articles	77	77	72
Editorials	56	53	59
Total JOURNAL Expenditure	\$20,625.68	\$22,598.32	\$22,144.94
Total JOURNAL Income	20,877.31	18,898.91	16,393.78
Net Expenditure for JOURNAL		3,699.41	5,751.16
Net Profit for JOURNAL	251.63		
Number State			
Society Members	2,377	2,424	2,482
Net Expenditure per Member		\$ 1,526.00	\$ 2,313.00

Dr. Longworth then moved that the report of the Board of Trustees be accepted and approved as presented, and his motion was duly seconded.

Dr. Thornton announced a recess for dinner at this point. The meeting was called to order again about 1:30 p.m., and a vote was taken on the motion and it carried.

Dr. Bush rose to discuss the matter of financing the State Society. In view of the deficit of \$14,000 which is contemplated for 1950, he felt it would be well to collect more money in 1950 but that it would be difficult to do so. He therefore moved that the trustees dip into surplus to take care of the deficit for 1950 and that the dues for 1951 should be \$50. The motion was seconded.

Before much discussion ensued Dr. Wolfe said he felt the members of the House should first decide the matter of a full time physician, so that, if that were approved, the trustees would know just what their expenses for 1950 would be and what amount of dues should be asked. He moved that Dr. Bush's motion be tabled until the other problem had been settled. The motion was seconded and upon being put to a vote carried.

Dr. Farnsworth then moved that the trustees be empowered to hire a physician to serve the State Society as coordinator on a full time basis. The motion was seconded.

Members of the House discussed the motion, and there seemed to be no dissenting voice. Some had come instructed to vote for such a proposal. When the motion was put to a vote, it carried unanimously.

Dr. Wolfe then moved that Dr. Bush's motion be removed from the table and be brought before the

House for consideration. This was seconded and carried.

Many delegates discussed the motion. All felt there was a need for the increase but there was a divergence of opinion as to when the money should be collected. *An amendment was proposed that the increase should take effect in 1950.* The difficulty of collecting it from those who have already paid 1950 dues was mentioned; some members also said they were sure many doctors in their county would not pay it in 1950, but if they had time to explain it, it could be collected in 1951. *Upon being put to a vote, the amendment lost.*

The original motion that the dues for 1951 should be raised to \$50 carried.

Dr. Phillips then asked the pleasure of the House in regard to a grievance committee. He reported that at the meeting on public relations held in Chicago in November the states which had such committees found they were the most valuable adjunct to good relationships with the public. He asked the executive secretary to explain the functioning of the Colorado committee.

Miss McCord told of three recent instances of complaints reaching the State Society office, one of which was settled by the county committee and the other two are still pending. In Colorado the state is divided into districts, two physicians being elected from each district. Hearings are held on all complaints, with a regular monthly meeting date set for the committee. No physician may sit in on decisions when his own district is involved. This is to avoid the error of personal prejudice entering the decision.

Dr. Herman Smith *moved that such a committee be set up in Iowa.* This was amended to read that the president should appoint a committee to bring in rules and regulations providing for such a committee so that the House of Delegates in April might vote upon it and authorize it. *The motion as amended was put to a vote and carried.*

A brief discussion of the offices to be filled at the next meeting followed. It was suggested that the delegates in the various districts might meet and consider possible candidates rather than wait until the last minute at the annual meeting. The usual instructions for the Nominating Committee were given to each member present for his perusal and consideration.

Dr. Henry then asked the privilege of the House to present the name of Dr. Charles B. Taylor of Ottumwa for life membership. Dr. Taylor, a former president of the Society, was forced to retire from practice because of a heart condition in 1935. The Wapello County Society has made him a life member. Dr. Henry *moved that the constitution be waived and that life membership be granted to Dr. Taylor.* Motion was seconded and upon being put to a vote, carried unanimously.

There being no further business, Dr. Thornton declared the meeting adjourned about 3:00 p.m.

AMERICAN ACADEMY OF GENERAL PRACTICE

1950 Scientific Assembly

St. Louis, Mo.—February 20-23—Kiel Auditorium

All members of the American Medical Association are welcome to attend. For information, write to American Academy of General Practice, Broadway at 34th Street, Kansas City 2, Mo.

Monday Afternoon, February 20

- 1:30 The Use and Abuse of Anticoagulant Drugs in Clinical Practice
IRVING S. WRIGHT, M.D., New York City
- 2:00 The Rule of Reason in Psychiatry
C. CHARLES BURLINGAME, M.D., Hartford, Conn.
- 2:30 Objectives for the Treatment of Diabetes During 1950
ELLIOTT P. JOSLIN, M.D., Boston, Mass.
- 4:00 Practical Management of Some of the More Common Skin Diseases
R. N. BUCHANAN, Jr., M.D., Nashville, Tenn.
- 4:30 When to Suspect Carcinoma of the Gastro-Intestinal Tract
HENRY L. BOCKUS, M.D., Philadelphia, Pa.

Tuesday, February 21

- 9:00 The Anesthesiological Obligations of the General Practitioner
STEVENS J. MARTIN, M.D., Hartford, Conn.
- 9:30 Cutaneous Manifestations of Internal Disease
ARTHUR C. CURTIS, M.D., Ann Arbor, Mich.
- 11:00 Chemotherapy of Infection
PAUL B. BEESON, M.D., Atlanta, Ga.
- 1:30 Practical Aspects of Nutrition in Surgical Patients
ROBERT M. ZOLLINGER, M.D., Columbus, Ohio
- 2:00 The Management of Acute Appendicitis with Perforation
CHARLES J. WEIGEL, M.D., River Forest, Ill.
- 2:30 The Role of Spa Therapy in the Management of Rheumatic Diseases
EUCLID M. SMITH, M.D., Hot Springs, Ark.
- 4:00 Some Common Fractures of the Upper Extremity
EUGENE M. REGAN, M.D., Nashville, Tenn.

Wednesday, February 22

- 9:00 Lumps in the Breast
FRANK W. HALL, M.D., Cape Girardeau, Mo.
- 9:30 Psychological Language of the Organs
DAVID A. BOYD, Jr., M.D., Rochester, Minn.
- 11:00 The General Practitioner, His Place in the Program of the Post-Graduate Medical School of New York
C. E. de la CHAPELLE, M.D., New York City
- 1:30 What Can You Do for the Chronic?
HOWARD A. RUSK, M.D., New York City
- 2:00 Hypothyroidism
EDWARD H. HASHINGER, M.D., Kansas City, Mo.
- 3:30 Cytological Diagnosis of Malignant Diseases by the Papanicolaou Method
R. B. H. GRADWOHL, M.D., St. Louis, Mo.
- 4:00 The Practical Approach to the Diagnosis and Management of Sterility
WALTER J. REICH, M.D., Chicago

Thursday Morning, February 23

- 9:00 Cancer of the Colon and Its Early Diagnosis
WENDALL G. SCOTT, M.D., St. Louis, Mo.
- 9:30 Some Clinical Aspects of Congenital Aplasia, Hypoplasia, and Degeneration of Male and Female Gonads
E. C. HAMBLEN, M.D., Durham, N. C.
- 11:00 The Acute Abdomen
PHILLIP THOREK, M.D., Chicago, Ill.

SPEAKERS BUREAU

HAROLD MARGULIES, M.D., *Chairman*

JOHN I. MARKER, M.D., Davenport

HORACE M. KORNIS, M.D., Dubuque

ROBERT N. LARIMER, M.D., Sioux City

JAMES H. ALLEN, M.D., Iowa City

CHARLOTTE FISK, M.D., Des Moines

FRANK R. PETERSON, M.D., Cedar Rapids

There are some problems of importance to the Speakers Bureau that we would like to pose for your consideration. They have to do with your activities as they relate to and are affected by medical-political considerations. In order to make sure of your desires it has been suggested that a questionnaire be sent out to get a definite statement of opinion on these and related questions.

The Speakers Bureau has a somewhat nebulous but very active role. It serves as a kind of utility outfielder, working at regular and planned programs and filling in elsewhere as the need arises. Besides the postgraduate programs, cancer clinics, chest-heart clinics, etc., we make an effort to supply speakers for radio programs, county society meetings and other programs.

We need to know a number of things about types of programs desired in general and in certain particulars. For scientific groups there is some split in opinion concerning the advisability of two ideas. One group believes that the talks should be exclusively "practical," in that they deal with problems met by the physicians in daily practice. Another group would prefer to know what is going on in the over-all progress of medical science, both in clinical and research fields, and seeks an opportunity to hear concise summaries by men experienced in special fields. We have felt that it is likely that men who rarely see congenital heart disease would still like very much to know the work that is being done there without spending the hours required in individual inquiry to find such information. However, we have felt justified in using this type of talk as one of a group of talks acting as a kind of symposium. It is reasonable that with the wide variety of medical data available today a lecture program limited in scope would be of greater value as it discussed the most basic concepts rather than detailed therapeutic and diagnostic notes.

The use of motion pictures as a device for teaching has come up for discussion. Some county societies have used them quite freely and enjoy them greatly. There is now available a great number of carefully constructed films made by medical schools, the A.M.A., pharmaceutical houses and others. Many of these are excellent in all respects. Presented as part of a program, the rest consisting of comments made by doctors who have previously reviewed the film, they bring to the average community some of the best advantages of a large medical center while exploiting local talent effec-

tively. We should like to see wider use of these films, all of which can be shown on 16 mm. projectors.

Public Relations

There has been a concerted effort to combat propaganda favoring socialized medicine. One of the effective ways to do that is to make the public aware, in a positive way, of the fine things the medical profession has achieved. This can be done in a variety of ways. From our point of view the best one is to talk to as many lay groups as possible on subjects of general interest. These should be, exclusively, talks between doctors as informed persons and those who are willing to learn about important medical advances. Our best defense is the quality of our work. This can be described most skillfully by those who are most involved.

Many Iowa physicians have been highly cooperative in talking before these organizations. As the opportunities arise we hope others of you will also talk in a purely professional vein. Too frequently such efforts are directed exclusively toward people who already are sympathetic toward our needs. It would be highly beneficial if we could also reach those who are either undecided or openly hostile.

Dr. W. R. Ingram, Professor of Anatomy at the State University of Iowa, lectures weekly on "The Anatomy and Physiology of the Central Nervous System." These discussions are held every Tuesday from 8:00-10:00 p.m. at Veterans Administration Hospital, Knoxville, Iowa.

SPEAKERS BUREAU RADIO SCHEDULE

WSUI—Tuesdays at 11:30 a. m.

WOI—Thursdays at 11:15 a. m.

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|------------|---------------------------------------------------------------------------------|
| Feb. 7-9 | Common Fractures Occurring in the Winter
Elliott A. Cobb, M.D., Cedar Rapids |
| Feb. 14-16 | Pneumonia and Influenza
Lloyd J. Gugle, M.D., Ottumwa |
| Feb. 21-23 | Common Household Poisons
Speaker not yet scheduled |
| Feb. 28- | Hazards of Farming |
| March 2 | Mr. N. J. Wardle, Iowa State College, Ames |

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- THE ARTHROPATHIES: A Handbook of Roentgen Diagnosis**—By *Alfred A. de Lorimier*, M.D., Radiologist, St. Francis Hospital, San Francisco; Consultant in Radiology for the U. S. Army at Letterman General Hospital; Formerly Commandant, The Army School of Roentgenology. Second Edition. Chicago, The Year Book Publishers, Inc., 1949. Price \$7.00.
- CLINICAL PATHOLOGY: Application and Interpretation**—By *Benjamin B. Well*, M.D., Ph.D., Professor of Medicine, University of Arkansas School of Medicine, Little Rock. Philadelphia and London, W. B. Saunders Co., 1950. Price \$6.00.
- ELECTROCARDIOGRAPHY: Fundamentals and Clinical Application**—By *Louis Wolff*, M.D., Visiting Physician, Consultant in Cardiology and Chief of the Electrocardiographic Laboratory, Beth Israel Hospital; Associate in Medicine, Harvard Medical School. Philadelphia and London, W. B. Saunders Co., 1950. Price \$4.50.
- FROM THE HILLS: An Autobiography of a Pediatrician**—By *John Zahorsky*, M.D. St. Louis, C. V. Mosby Co., 1949. Price \$4.00.
- HANDBOOK OF MEDICAL MANAGEMENT**—By *Milton Chatton*, A.B., M.D., Instructor in Medicine, University of California Medical School, San Francisco; *Sheldon Margen*, A.B., M.D., Clinical Instructor in Medicine and Research Associate in Medicine, University of California Medical School, San Francisco; *Henry D. Brainerd*, A.B., M.D., Assistant Clinical Professor of Medicine and Pediatrics, University of California Medical School, San Francisco; Assistant Clinical Professor of Pediatrics, Stanford University School of Medicine; Physician-in-Charge, Isolation Division, San Francisco Hospital. First Edition. Palo Alto, University Medical Publishers, 1949. Price \$3.00.
- HUMAN GROWTH: The Story of How Life Begins and Goes On, Based on the Educational Film of the Same Title**—By *Lester F. Beck*, Ph.D., Associate Professor of Psychology, University of Oregon; with the Assistance of *Margie Robinson*, M.A. New York, Harcourt, Brace and Co., 1949. Price \$2.00.
- PHYSIOLOGY OF HEAT REGULATION AND THE SCIENCE OF CLOTHING: Prepared at the Request of the Division of Medical Sciences, National Research Council**—Edited by *L. H. Newburgh*, M.D., Professor of Clinical Investigation, The Medical School, University of Michigan, Philadelphia and London, W. B. Saunders Co., 1949. Price \$7.50.
- THE PHYSIOLOGY OF THOUGHT: A Functional Study of the Human Mind in Action**—By *Harold Bailey*, M.D., F.A.C.S., New York, The William-Frederick Press, 1949. Price \$3.75.
- QUESTIONS, Medical State Board, and ANSWERS**—By *Max Goepfert*, M.D., Formerly Professor of Clinical Medicine, Graduate School of the University of Pennsylvania; and Professor of Medicine, Women's Medical College of Pennsylvania; and *Harrison F. Flippin*, M.D., Associate Professor of Medicine at the Graduate School of the University of Pennsylvania. Eighth Edition. Philadelphia and London, W. B. Saunders Co., 1950. Price \$7.00.
- ST. THOMAS'S REPORTS; Second Series, Vol. V**—Editors: *Dr. H. K. Goadby*, *Dr. J. S. Richardson*; Assisted by *Dr. J. H. Cyriac*, *Dr. H. J. Wallace*. London, St. Thomas's Hospital, 1949. Price 10s. 6d.
- THE 1949 YEAR BOOK OF GENERAL SURGERY (August 1948-July 1949)**—Edited by *Evarts A. Graham*, A.B., M.D., Professor of Surgery, Washington University School of Medicine; Surgeon-in-Chief of the Barnes Hospital and of the Children's Hospital, St. Louis. Chicago, The Year Book Publishers, Inc., 1949. Price \$4.75.
- THE 1949 YEAR BOOK OF OBSTETRICS AND GYNECOLOGY**—Edited by *J. P. Greenhill*, B.S., M.D., F.A.C.S., Professor of Gynecology, Cook County Graduate School of Medicine; Attending Gynecologist, Cook County Hospital; Attending Obstetrician and Gynecologist, Michael Reese Hospital; Associate Staff, Chicago Lying-In-Hospital. Chicago, The Year Book Publishers, Inc., 1950. Price \$4.50.

BOOK REVIEWS

CARDIOVASCULAR DISEASE

Fundamentals, Differential Diagnosis, Prognosis, and Treatment

By *Louis H. Sigler*, M.D., F.A.C.P., Attending Cardiologist and Chief of Cardiac Clinic, Coney Island Hospital; Consulting Cardiologist, Rockaway Beach Hospital; Consulting Cardiologist, Menorah Home and Hospital for the Aged. New York, Grune & Stratton, Inc., 1949. Price \$10.00.

Ambitious in scope, this volume suffers from an attempt to compress too large a subject into a text of less than 600 pages. The anatomy and physiology of the cardiovascular system are well discussed. The treatment of congestive heart failure is also given adequate consideration, and there is a good discussion of coronary occlusion and myocardial infarction. Presumably because of the limitations of space other aspects of the subject are given only cursory attention in many instances. So valuable a clinical tool as electrocardiography is not listed in either the table of contents nor the index and in the text is mentioned only by casual references to a textbook on that subject by the same author. Not one illustrative electrocardiogram appears in the chapter on coronary occlusion and myocardial infarction nor in the chapter on normal and abnormal heart rhythms.

The reader is further harassed by frequent grammatical aberrations and errors in spelling.

H. J. Smith, M.D.

ARTERIAL HYPERTENSION

Its Diagnosis and Treatment

By *Irvine H. Page*, M.D., and *Arthur Curtis Coreoran*, M.D., Research Division of the Cleveland Clinic Foundation, Cleveland; Formerly Lilly Laboratory for Clinical Research, Indianapolis City Hospital; Indianapolis. Second Edition. Chicago, The Year Book Publishers, Inc., 1949. Price \$5.00.

Like the first edition, this is an excellent book. It is carefully prepared by two men whose names are closely allied with research in the field of hypertension and renal function.

The text is remarkably complete. Nonetheless, it is readable and never forgets that its main use is for the practitioner. It has a concise, accurate summary of the important research work in each phase, followed by important discussions of symptoms, diagnosis, prognosis and therapy. It is not surprising, with these authors, to find the section on the kidneys in hypertension especially well done. Treatment is described quite briefly with an effort to present fairly such controversial problems as the rice diet and sympathectomy. The volume is indexed.

There is no book available which offers so much on this subject so compactly. It can be read with profit and pleasure by all physicians who treat patients with hypertension.

Harold Margulies, M.D.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. ROGER M. MINKEL, Fort Dodge

President-elect—MRS. CLAIRE H. MITCHELL, Indianola

Secretary—MRS. IVAN K. SAYRE, St. Charles

Treasurer—MRS. WILLIAM B. CHASE, JR., Des Moines

Corresponding Secretary—MRS. CHARLES H. COUGHLAN, Fort Dodge

600,000 NOW IN IOWA BLUE CROSS PLAN

The Blue Cross plan of hospitalization insurance is rounding out its tenth year in Iowa and enrollment now is more than 600,000.

The companion Blue Shield Plan for prepayment of medical and surgical expenses has 141,154 members in the state—more than twice the 1948 enrollment.

Backers of Blue Shield and Blue Cross say the programs are an effective answer to pressure for socialized medicine.

Of Iowa's 2,500 physicians, 1,900 now are participating in the Blue Shield. Blue Cross now has 155 member hospitals.

Both plans are backed by nonprofit organizations. Blue Cross was organized by Iowa hospitals and Blue Shield is sponsored by the Iowa State Medical society.

Aimed especially at giving relief to low income families, both plans are open on a group basis to workers in business and industrial organizations and farm groups.

Cost to individuals in groups for Blue Cross is \$1.25 monthly. The entire family can be covered for \$2.65 a month.

The fee provides hospital room rent, anesthesia fees and covers expenses of hospital treatment and drugs.

There is a ceiling on the amount the plan will pay for room costs and an anesthetist, but none on drugs and special treatments.

During the first nine months of 1949, Blue Cross paid out \$3,618,201.83 for hospital care.

Combined Blue Cross and Blue Shield coverage costs \$5.40 per family. In addition to hospital expenses, the plan covers medical and surgical expenses arising out of hospitalization.

In Iowa, Blue Cross is offered by two organizations: Hospital Service, Inc., in 73 counties in the eastern three-fourths of the state, and Associated Hospital Service which functions in the western 26 counties and South Dakota.

Headquarters for Hospital Service is in Des Moines. Associated Hospital Service operates out of Sioux City.

Blue Cross and Blue Shield service are offered in every state, Puerto Rico, and the Canadian prov-

inces. Thirty-five million persons are enrolled in Blue Cross.

During the first six months of 1949, Blue Cross, nationally, paid for nearly two million cases involving bed care.

Des Moines Register, Nov. 23, 1949.

The President's Page

Bulletin, Polk County Medical Society, Dec., 1949

Today's prosperity is creating a brand of selfishness which threatens to destroy that spirit of self enterprise which makes prosperity possible. The initial threat is directed at medical practice through legislative enactment of Federal regulation. Other businesses and professions are beginning to feel the impact of this movement. These groups are fully aware of this intent to change our philosophy of government and are offering their talent and facilities for our defense. We too must join with them in our common course.

Our friends and the medical society committees cannot wage this battle alone. We have grave individual responsibilities which constitute the nucleus of our defense. Basically, how well we conduct ourselves among the thousands of people with whom we come in daily contact will create the public opinion which will decide the issue. No business or profession can hope to survive long, today, without the good opinion of the public. It is almost omnipotent. Let us conduct ourselves and our individual activities according to the best traditions of the profession.

Good public relations consists not only of doing good but telling the world about it. The present day interest in public health education provides us with an opportunity to let the people know what we are doing in the great variety of health, welfare, medical care and allied fields of human programs. We must talk and work for the betterment of community health wherever the opportunity presents itself.

Audiences for the great variety of our speakers who are qualified to talk on public health problems or in opposition to regimentation should be solicited by ourselves and our wives through the many contacts we have among the civic and similar groups in our community. Inquire at our Executive Office for a list of available speakers; or better still give us your problem and let us help you.

Fred Sternagel, M.D., President

EXCERPTS FROM THE WASHINGTON OFFICE

"Last year in 'Bulletin No. 20' (April 2, 1948) we presented a study showing the comparative cost of federal and state governments. It showed that the average state collected six and three-fourths times more taxes to support federal government than collected to support state government. This year in 'Bulletin No. 17' we carried an article on taxation demonstrating that the federal government in 1948 was taking 74 per cent of the total taxes collected, leaving only 26 per cent for state and local governments.

"Of the more than 40 billion dollars collected by the federal government in 1948, 5½ billions were returned to the states. Many Governors have demanded a reapportionment of taxes leaving state and local governments a fairer share of taxes so local obligations can be performed locally, free of government control."

In 1948 Iowa paid \$446,799,961 in taxes to the federal government; the amount returned was \$98,776,448, or 22 per cent.

Bulletin No. 31
Washington Office, A.M.A.,
Joseph S. Lawrence, M.D., Director

"The death rate for the United States in 1948 was the lowest in the history of the country, John L. Thurston, Acting Federal Security Administrator, announced December 24. The announcement was based on a compilation just completed by the Public Health Service's National Office of Vital Statistics. . . The death rate in Great Britain was a full point higher than ours."

Capitol Clinic No. 1
Washington Office, A.M.A.,
Joseph S. Lawrence, M.D., Director

"The Democratic National Committee newsletter, 'Capital Comment,' on December 12th levied criticism against the A.M.A. for instituting annual dues and sympathized with those doctors who might be expelled for non-payment. (This is the first time in the history of the A.M.A. that dues have been sought.)"

Capitol Clinic No. 2
Washington Office, A.M.A.,
Joseph S. Lawrence, M.D., Director

At the December 6 meeting of the A.M.A. in Washington, D. C., E. E. Irons, M.D., president of the A.M.A., announced that 80 per cent of the doctors who are members have paid their \$25 annual dues. He further clarified by the statement that interns, residents, retired doctors and those without full-time positions were not asked to contribute.

The "imposing minority" so frequently mentioned when socialized medicine is discussed cannot be so substantial, after all, when actual figures are cited.

Oscar Ewing's Trip Abroad has been the subject of many newspaper stories. In England Mr. Ewing charged that organized medicine in the United States is subsidizing opposition to the British plan. However, a British physician, spokesman for 3,000 physicians, roundly denied this charge, claiming British doctors have received nothing from organized medicine in the United States except one check

for \$140 from the chairman of a county medical society and another for \$10 from one of the national societies. British doctors then charged that Mr. Ewing had not visited a single doctor's surgery but had talked only with government administrators of the health scheme. Mr. Ewing denied this charge insisting he had seen a number of doctors including general practitioners and specialists. From Geneva on December 26 the *New York Times* printed a statement by Oscar Ewing to the effect that he now feels certain changes must be made in the Administration's Compulsory Health Insurance Bill before the Congress. Such revision should include a change in the proposed system of compensation for doctors to reduce the opportunities for collusion between patients and doctors. This, he said, has presented a serious problem in all countries and in some has now wrecked the existing system. Under the change the patient would pay part of the cost for medical services, not to the doctor, but to the insurance fund. The Ewing party observed that the Swiss system of medical sickness insurance which has developed since about 1910 and which covers approximately 75 per cent of the population is completely a voluntary medical sickness insurance, some such groups containing not more than a dozen members. The Swiss local government bears some part of the system but it is mostly self-supporting. There is an absence in this system of any connection with or connotation of Socialist objectives or broader political aims.

Social Security legislation will be the subject of hearings beginning about January 16th, Chairman George (D.-Ga.) of the Senate Finance Committee said this week. Senate Majority Leader Lucas said, it is a "virtual certainty" that H. R. 6000, already passed the House, will be passed by the Senate this year in some form. On January 4th Senator Francis J. Myers (D.-Pa.) was named to the Senate Finance Committee, giving the Democrats an 8 to 5 ratio on the 13-man committee instead of the 7 to 6 ratio which has been in existence during the first session of the Eighty-first Congress. Senator John J. Williams (R.-Del.) thus lost his place on the committee. This change may have significance when social security legislation comes before the committee. The committee hereafter will be constituted as follows:

Democrats

Walter F. George, Chairman, Georgia
Tom Connally, Texas
Harry Flood Byrd, Virginia
Edwin C. Johnson, Colorado
Scott W. Lucas, Illinois
Clyde R. Hoey, North Carolina
Robert S. Kerr, Oklahoma
Francis J. Myers, Pennsylvania

Republicans

Eugene D. Millikin, Colorado
Robert A. Taft, Ohio
Hugh Butler, Nebraska
Owen Brewster, Maine
Edward Martin, Pennsylvania

Capitol Clinic No. 2
Washington Office, A.M.A.,
Joseph S. Lawrence, M.D., Director

NATIONAL EDUCATIONAL CAMPAIGN MEMOS

Blue Cross, Blue Shield and commercial insurance companies are giving immensely valuable aid to the campaign. Cooperating with medicine to defend free enterprise, working to defeat government medicine, insuring increasing millions under their own competitive systems, they are demonstrating daily that charges of medical monopoly in the Voluntary Health Insurance field are ridiculous in the extreme.

Allied groups—dentists, druggists, nurses, hospitals and many others—are working in close cooperation with objectives of the National Education Campaign. Dentists are providing speakers and distributing literature. Druggists are devoting window displays to the campaign and using campaign literature as package enclosure. Over 200,000 pieces of campaign material has been sent, by request, to dentists, and 333,460 to druggists. Millions of pieces have been requested by the other allied professions for their distribution.

"My truck driver husband paid \$86 to his union last year, just for belonging. He says some unions already are asking for more for their political campaign. How come the doctors can run their campaigns for an assessment of \$25?"

That question, posed in one of the many letters stimulated by the National Education Campaign of the A.M.A., sent a researcher to the telephone at the request of the Board of Trustees.

Here are fees reported paid just for membership, not for special activities, by members of typical organizations:

Teamsters Union local:	
Initiation Fee	\$100.00
Annual Dues	75.00
Architects	45.00
American National Retail Jewelers.....	150.00
Chicago Newspaper Guild, on earnings of \$100 per week...	60.00
Insurance Men, Typical Groups.....	50.00
Purchasing Agents	35.00
Motion Picture Operators.....	42.00

ANNUAL REPORT OF THE AUXILIARY TO THE POLK COUNTY MEDICAL SOCIETY

The Auxiliary to the Polk County Medical Society has completed its longest and possibly its most active year. The number of meetings during the year was increased from five to eight. Under the chairmanship of Mrs. L. K. Shepherd and Mrs. Allan Phillips the entire active membership was alerted to participation in the fight against socialized medicine. Some 80,000 pamphlets were distributed; educational displays and speakers were furnished; telegrams and letters were sent our representatives in Washington, D. C.

Our work for the Iowa Society for Crippled Children and Adults was carried on this year in the form of a style show given by Younker Brothers. Our Auxiliary handled the sale of tickets and acted as hostesses. More than \$1,200 was cleared and turned over to the Society.

The *Hygeia* Committee was at work throughout the year. The magazine was placed in the Junior and Senior high schools again, and a number of new subscriptions were obtained.

Mrs. Fred Moore and her committee prepared for us a revision of our By-Laws to supplant the old ones which no longer met our needs.

We were well represented at the State Auxiliary board meetings and have cooperated with the state program.

The state convention was held in Des Moines in April. We feel we did a good job of the social program. It was well planned and all functions were well attended.

Mrs. Howard Smead, program chairman, gave us a varied and stimulating year.

One of the most satisfying things was the fine participation of a great number of the younger doctors' wives. Our attendance has varied from 80 to 35. One hundred fifty-five members are paid up.

Mrs. Harold J. McCoy, President

ACTIVITIES OF COUNTY AUXILIARIES

The Delaware County Medical Society and its Auxiliary met for a 6:30 dinner at the Glen Charles on December 7, 1949. A party, including Santa Claus, gifts, and all season's traditions followed. Auxiliary officers elected for 1950 are: Mrs. R. E. Clark, Manchester, president; Mrs. Frank N. Schroeder, Ryan, vice president; Mrs. Paul G. Meyer, Manchester, secretary-treasurer.

Mrs. B. H. Byers

The Butler County Medical Society and Auxiliary held its annual turkey dinner November 14, 1949, at Allison. In the group meeting Mrs. B. G. Tye, field director of the Iowa Division of American Cancer Control, discussed the need for educating the public and for funds available in local counties. The doctors and their wives agreed to cooperate in every possible way in the educational campaign. The Auxiliary voted to send a bushel of apples to the County Home for Christmas and also donated toward the Nurses' Loan Fund. The following officers were elected for 1950: Mrs. Edward M. Mark, Clarksville, president; Mrs. F. A. Rolfs, Aplington, vice president; Mrs. F. F. McKean, Allison, secretary-treasurer.

Mrs. F. F. McKean

The Pottawattamie County Medical Society and Auxiliary met December 21, 1949, at Hotel Chieftain, Council Bluffs, for a 6:30 dinner. Sixteen members were present. Each member brought Christmas gifts for the children in both hospitals and the Sunbeams Children's Home. A party was planned for January.

Mrs. I. Sternhill

REMINDERS FROM THE PRESIDENT

County presidents are requested to return questionnaires concerning the past year's activities to Auxiliary Headquarters as soon as possible.

The annual meeting of the Woman's Auxiliary to the Iowa State Medical Society will be held at Burlington, April 17-18, 1950.

SOCIETY PROCEEDINGS

MEETINGS

Boone

The Boone County Medical Society held its annual dinner meeting December 20 at the Holst Hotel. Dr. Wallace G. Laidley was elected president; Dr. A. W. Puntenney, vice president; and Dr. H. C. Scharnweber, secretary-treasurer. Other officers were re-elected to their former positions.

Bremer

All officers of the Bremer County Medical Society were re-elected for 1950 at a dinner meeting December 14 at Mercy Hospital in Waverly. Guest speaker was Dr. Frank R. Peterson of Cedar Rapids, whose subject was "Cancer."

Buchanan

The Buchanan County Medical Society met December 20 at the Independence State Hospital. Following dinner, Dr. Max E. Witte spoke on "Psychiatric Treatment" and Dr. R. W. Robb on "Schizophrenia."

Clayton

At the December 16 meeting of the Clayton County Medical Society in Elkader, Dr. C. R. Goddard was elected president; Dr. D. W. Pfeiffer, vice president; Dr. T. W. Lichter, secretary; Dr. P. R. V. Hommel, delegate, and Dr. Goddard, alternate.

Clinton

The annual dinner of the Clinton County Medical Society was held December 15 at the Clinton Country Club. The doctors' wives were guests. On December 20, at the business meeting held at St. Joseph's Mercy Hospital, Dr. J. R. Jowett was elected president for 1950; Dr. R. E. Dwyer, vice president; Dr. A. B. Henningsen, secretary-treasurer; Dr. R. F. Luse, delegate; Dr. R. T. Lenaghan, alternate.

Dubuque

The regular monthly meeting of the Dubuque County Medical Society was held January 10 at Brunker Hill Club in Dubuque.

The next meeting of the Society will be February 14. Dr. Howard W. Odell of the Mayo Clinic will give a paper on "The Nature and Management of Acute Renal Failure."

Hancock-Winnebago

At the December 15 meeting in Forest City of the Hancock-Winnebago Medical Society, Dr. P. F. H. Pugh, Sioux City, spoke on "Psychiatry in the Latent Period." Dr. Thomas Mangan of Forest City was accepted in the society. The following officers were elected for 1950: Dr. G. F. Dolmage, president; Dr. W. F. Missman, vice president; Dr.

Thomas Mangan, secretary-treasurer; Dr. C. V. Hamilton, delegate, and Dr. H. H. Perman, alternate.

Iowa Urological Society

The Iowa Urological Society at a meeting December 17 at University Hospitals, Iowa City, elected Dr. Rubin H. Flocks, head of SUI department of urology, president, and Dr. F. Harold Entz of Waterloo, secretary-treasurer. Dr. N. G. Alcock conducted a pyelographic clinic as part of the program. Dr. Wayland K. Hicks, Sioux City, was one of those who presented papers. The Society was entertained at dinner at the Elks Club following the meeting.

Johnson

Officers elected December 7 were installed at the January 4 meeting of the Johnson County Medical Society in Hotel Jefferson, Iowa City. Dr. G. D. Callahan is the new president; Dr. L. H. Jacques, vice president; and Dr. Eugene J. Boyd, secretary-treasurer. Dr. John H. Randall of the SUI College of Medicine presented an address on "Endometrial Carcinoma."

Linn

Dr. William B. Bean, head of the department of internal medicine at SUI, spoke on potential dangers in the use of antibiotics at a meeting of the Linn County Medical Society in Cedar Rapids on January 12.

At the meeting to be held February 9, Dr. Ralph Major, professor of medicine at the University of Kansas, will give a "Doctors and Wives" program, instead of Dr. Alston Callahan, as formerly planned. Dr. Callahan, who is professor of ophthalmology at the Medical College of Alabama, will speak at the March 9 meeting.

Louisa

At the dinner meeting of the Louisa County Medical Society December 9 in Columbus Junction, Dr. L. E. Weber was elected president and Dr. J. H. Chittum was re-elected secretary-treasurer. A resolution was passed endorsing the proposition of having a county public health nurse.

Montgomery

Following a Christmas party and dinner of the Montgomery County Medical Society and the doctors' wives at the Red Oak Country Club December 8, Dr. E. M. Sorensen was re-elected president and Dr. S. D. Poore was made secretary-treasurer.

Monroe

At the annual meeting of the Monroe County Medical Society in Albia in December, Dr. W. S.

Chester was elected president; Dr. T. A. Moran, secretary; Dr. C. C. Fowler, delegate; and Dr. H. J. Richter, alternate.

O'Brien

The annual meeting of the O'Brien County Medical Society was held January 10 at Primghar. Dr. L. H. Mattice was elected president; Dr. R. E. Griffin, vice president; Dr. W. S. Balkema re-elected secretary-treasurer; and Dr. T. D. Kas, delegate.

Page

A joint meeting of the Page County Medical and Pharmaceutical Associations was held in Clarinda December 15. Speakers were Mr. Dallas Bruner, Iowa Pharmaceutical Association; Donald L. Taylor, Iowa State Medical Society; and Mr. I. H. Myers, legal representative for both associations.

Dr. Norman D. Render is the newly elected president of the group, with other 1950 officers being: Dr. D. E. Tyler, vice president; Dr. S. T. Ramsdell, secretary-treasurer; Dr. G. H. Powers, delegate; and Dr. Kenneth Gee, alternate.

Palo Alto

The Palo Alto County Medical Society held a dinner meeting at the Country Club in Emmetsburg January 3. The scientific program consisted of a film on "Gastroscoy." Officers for 1950 were elected as follows: Dr. J. E. Black, president; Dr. R. D. Workman, vice president; Dr. Wendall A. Johnson, secretary-treasurer and delegate.

Polk

The annual dinner meeting of the Polk County Medical Society was held January 18 at the Hotel Savery. Mr. Leland A. Watson, president of The Maico Company, Minneapolis, spoke on "The Doctor and the Welfare State." Dr. Lee Forrest Hill was installed as president, and named president-elect was Dr. Clement A. Sones. Dr. Francis C. Coleman was elected secretary-treasurer for 1950; Dr. Byron M. Merkel, trustee; and Dr. Walter Kirch, councilor-at-large.

Pottawattamie

At the dinner meeting of the Pottawattamie County Medical Society on December 20 at Hotel Chieftain, Council Bluffs, Dr. E. M. Limbert was elected president; Dr. J. D. Hennessy, vice president; and Dr. A. M. Pedersen, secretary-treasurer.

Poweshiek

The Poweshiek County Medical Society met December 13 in Grinnell. Elected president was Dr. W. M. Page; vice president, Dr. T. E. Brobyn; treasurer, Dr. J. C. DeMeulenaere; secretary, Dr. E. S. Korfmacher; and delegate, Dr. S. D. Porter, with Dr. Korfmacher also serving as alternate.

Sioux Valley Medical Association

The Sioux Valley Medical Association held its fifty-fourth annual meeting in Sioux City January 24-26 at the Martin Hotel.

Union

Dr. J. G. Macrae was re-elected president of the Union County Medical Society at its annual meeting January 4 in Creston. Other newly elected officers are Dr. A. S. Beatty, vice president; Dr. C. E. Sampson, re-elected secretary-treasurer; Dr. A. F. Watts, delegate; and Dr. G. H. Jardine, alternate.

Washington

Dr. J. R. Miller was elected president of the Washington County Medical Society December 29. Dr. G. J. Nemmers was named vice president; Dr. W. S. Kyle, secretary-treasurer; Dr. E. D. Miller, delegate, and Dr. J. M. Lloyd, alternate.

Webster

At the annual business meeting of the Webster County Medical Society held December 20 at Hotel Warden, Fort Dodge, Dr. O. N. Glesne was elected president; Dr. M. G. Sanders, vice president; Dr. D. S. Egbert, re-elected secretary-treasurer; Dr. E. M. Kersten, delegate; Dr. J. H. Bruce, alternate.

Winneshiek

Dr. J. G. Goggin was named president of the Winneshiek County Medical Society at a meeting December 15 at Hotel Winneshiek in Decorah. Other officers elected are: Dr. R. N. Svendsen, vice president; Dr. E. F. Hagen, secretary-treasurer; Dr. F. A. Hennessy, delegate; and Dr. A. F. Fritchen, alternate.

PERSONALS

Dr. Walter D. Abbott, Des Moines, spoke on "Socialized Medicine" at the meeting of the Methodist Men's Club January 11 in Marshalltown.

Dr. Glenn C. Blome was elected president of the medical staff of the Ottumwa Hospital at a meeting December 13.

Dr. Robert Dempewolf, a native of Bellevue, has opened an office there for the practice of medicine. A graduate of the SUI College of Medicine, Dr. Dempewolf recently completed his internship at St. Francis Hospital, LaCrosse, Wis.

Dr. Madelene N. Donnelly has been appointed director of the division of maternal and child health of the Iowa State Department of Health. A graduate of SUI College of Medicine and of the public health division of the University of Michigan Medical School, Dr. Donnelly is now director of maternal, child and crippled children's services of the Idaho State Department of Health and will begin her new duties March 15.

Drs. J. A. and T. G. Dulin, who have practiced medicine in Sigourney for more than 40 years, are moving to their home in Iowa City.

Dr. Francis E. Giles, who has practiced in Cresco since 1941, has accepted a fellowship in the department of urology at SUI College of Medicine. Dr.

Charles Field, who has been associated with Dr. Donald Maland for the past year, has taken over Dr. Giles' offices.

Dr. Carl A. Hanson of Waterloo will serve as medical adviser for the Black Hawk County chapter of the National Foundation for Infantile Paralysis during 1950.

Dr. Willard W. Hayne of Des Moines was guest on the "Drama of Medicine" radio program on January 8. He discussed "New Facts About Pain."

Dr. Herbert Kersten of Fort Dodge spoke on "Proposed Legislation" at a meeting of the St. Joseph's Mercy Hospital Alumni Association on January 11.

Dr. Robert Klein has become associated with Drs. Sywassink, Klein and Catalona in Muscatine. Dr. Klein was graduated from Creighton University Medical School in 1946 and after spending a 14 month rotating internship at St. Mary's Hospital, Minneapolis, Minn., Dr. Klein spent two years in the U. S. Army medical corps. While in the service, Dr. Klein took a special course in pediatrics at Percy Jones General Hospital, Battle Creek, Mich., and later became chief of the Pediatric Clinic and Out-Patient Department of Tilton General Hospital, Fort Dix, N. J. He has just completed a six months' medical residency at St. Mary's Hospital in Minneapolis.

Dr. Harold Margulies of Des Moines spoke on "Keeping up with Medicine" at the January 11 meeting of the American Home Department of the Indianola Woman's Club. Dr. Margulies recently received his certification by the American Board of Internal Medicine.

Dr. Marion D. Mieras has opened an office for the practice of internal medicine in Whittier, Calif.

Dr. William H. Myerly recently completed his residency in surgery at Iowa Methodist Hospital, Des Moines, and is now located in the offices of Drs. Tom B. and Tom D. Throckmorton in Des Moines.

Dr. Carl D. Oelrich, Sioux Center, has been elected president of the hospital staff doctors of the Sacred Heart Hospital, LeMars.

Dr. Vernon W. Petersen of Clinton is the new vice president of the Iowa Division of the American Cancer Society, replacing Dr. E. D. Plass of Iowa City, who asked to be relieved of office because of illness.

Dr. Gerald R. Rausch, Sioux City neuropsychiatrist, gave a talk on "Common Psychiatric Disorders" as part of the Kossuth County postgraduate course on November 30 at Algona.

Dr. Donald C. Sharpe of Dubuque was elected president of the Mercy Hospital medical staff for 1950 at a meeting December 27.

Dr. John H. Stalford of Sac City read a paper on "The Achievement of Personality" to the Kiwanis Club there on January 9.

Dr. Fred Sternagel of Des Moines spoke on "Your Pattern for Healthful Living" at the regular dinner meeting of the Des Moines Business and Professional Women's club January 9.

Dr. E. H. Stratemeier, a radiologist from Kansas City, has become associated with Dr. S. F. Singer in Ottumwa. A graduate of the University of Kansas College of Medicine, Dr. Stratemeier spent four years in the army air corps as a flight surgeon. He spent three years in x-ray training at St. Luke's and Kansas City General Hospitals and for the past year has been associated with Dr. P. E. Heibert in Kansas City, Kan.

Drs. Olin A. Elliott, Diedrich J. Haines and George Mountain, all of Des Moines, attended the post-graduate clinic in cardiology at the University of Minnesota the first week in January.

Drs. H. Dabney Kerr, R. H. Flocks and Willis E. Brown will be guest speakers at the nineteenth annual spring clinical conference of the Dallas Southern Clinical Society in Dallas, Texas, next March.

Drs. W. C. Zabloudil and Marvin Piburn have opened an office in Delhi in addition to their practice in Hopkinton.

MARRIAGE ANNOUNCEMENTS

Anderson-Anderson

Miss Elizabeth Marianne Anderson, daughter of Mr. and Mrs. Herman F. Anderson of Des Moines, and Dr. Harold N. Anderson of Des Moines, son of Mr. and Mrs. Chris Anderson of Independence, were married December 10 in the home of the bride's parents.

DEATH NOTICES

Hills, Robert Asa, 68, Russell physician for over 40 years, died January 4 at Des Moines after an illness of several months. Born at South Manchester, Conn., Dr. Hills was graduated from the University of Chicago medical school in 1906 and began to practice in Russell in 1909. He was a member of the Lucas County and Iowa State Medical Societies.

Sayler, Harley Lapierre, 80, of Des Moines died December 25 at Iowa Lutheran Hospital following an illness of several weeks. Dr. Sayler was graduated from Drake University College of Medicine in 1898 and practiced for more than fifty years in Des Moines, where he was the former Health Commissioner. He was a life member of the Polk County and Iowa State Medical Society.

The JOURNAL *of the* Iowa State Medical Society

Vol. XL

Des Moines, Iowa, March, 1950

No. 3

IOWA STATE MEDICAL SOCIETY

Organized in 1850

CENTENNIAL MEETING

Burlington, Iowa, April 23-26, 1950

Memorial Auditorium

PROGRAM OF GENERAL SESSIONS

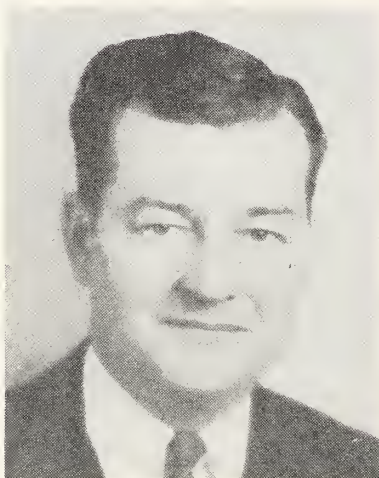
Monday, April 24

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:00 Greetings—
F. H. COULSON, M.D., President
Des Moines County Medical Society
Response—
ERNEST M. KERSTEN, M.D., First Vice
President, Iowa State Medical Society | 4:30 Panel Discussion—The Doctor and the Law
The Doctor and Law Enforcement
ALAN R. MORITZ, M.D., Cleveland
Professor of Pathology, Western Reserve
University School of Medicine
Formerly Professor of Legal Medicine
Harvard University |
| 9:15 The Gallbladder and Common Duct Problem
as Seen by the General Practitioner and Surgeon
ROBERT L. SANDERS, M.D., Memphis
Professor of Surgery, University of
Tennessee College of Medicine | The Doctor in Court
MR. H. R. DUNCAN, LL.B., Des Moines
Member, Legal Firm—Evans, Riley,
Duncan, Jones and Hughes
The Doctor as an Expert Witness
ERNEST M. HAMMES, M.D., St. Paul
President, Minnesota State Medical
Association and Chairman, Committee on
Medical Testimony |
| 10:00 The Significance of Rectal Bleeding and the
Importance of Diagnosing Early Cancer of
the Colon
WENDELL G. SCOTT, M.D., St. Louis
Associate Professor of Radiology
Washington University School of Medicine | 3:00 Recess to visit exhibits |
| 10:30 Recess to visit exhibits | 3:15 The Present Day Anesthesiologist
STEVENS J. MARTIN, Ph.D., M.D.,
Hartford
Chairman, Committee on Medical Schools
and Postgraduate Education, American
Society of Anesthesiologists, Inc.
Chairman, Department and School of
Anesthesiology, St. Francis Hospital,
Hartford, Conn. |
| 10:45 Noncardiac, Nonpleural, Nonpulmonary Pain
in the Chest
HORACE M. KORNS, M.D., Iowa City | 3:45 Clinical Management of Infertility
REED M. NESBIT, M.D., Ann Arbor
Professor of Surgery, Section of Urology
University of Michigan Medical School |
| 11:30 Headaches and Head Pains of Ocular Origin
A. D. RUEDEMANN, M.D., Detroit
Professor of Ophthalmology, Wayne
University College of Medicine | |
| 12:00 Recess for lunch | |

GUEST SPEAKERS



REYNOLD A. JENSEN, M.D.
Minneapolis



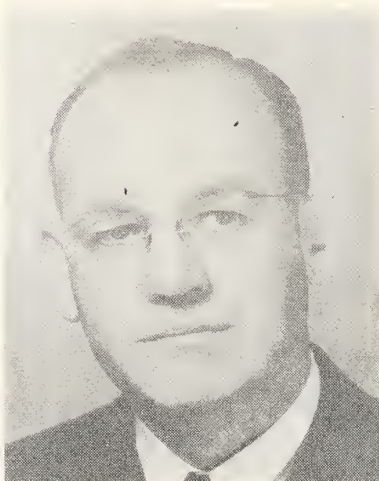
H. R. DUNCAN, LL.B.
Des Moines



A. D. RUEDEMANN, M.D.
Detroit



ERNEST M. HAMMES, M.D.
St. Paul



WILLIAM E. ADAMS, M.D.
Chicago

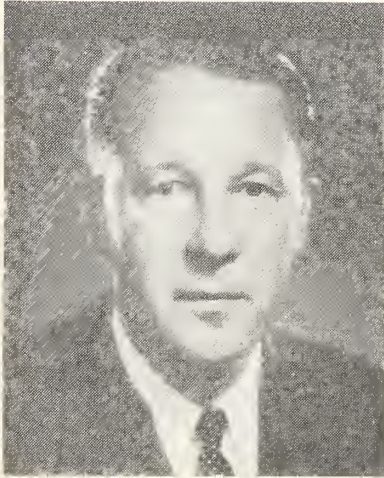


HORACE M. KORN, M.D.
Iowa City



NATHANIEL GRAHAM ALCOCK, M.D.
PRESIDENT
IOWA STATE MEDICAL SOCIETY
1949-1950

GUEST SPEAKERS



LEONARD E. READ
New York City



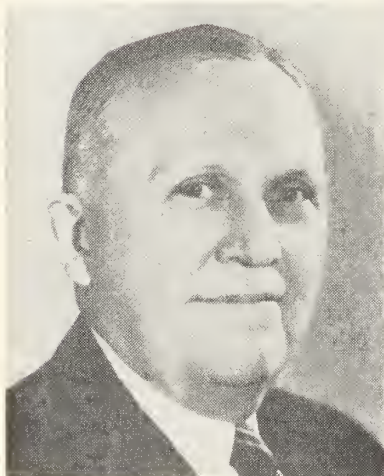
JACQUES S. GOTTLIEB, M.D.
Iowa City



JAMES A. GREENE, M.D.
Houston



STEVENS J. MARTIN, M.D.
Hartford



ROBERT L. SANDERS, M.D.
Memphis



FREMONT A. CHANDLER, M.D.
Chicago



BERNARD C. BARNES, M.D.
Des Moines

PROGRAM OF GENERAL SESSIONS

Tuesday, April 25

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| <p>9:00 The Use and Abuse of Thyroid Therapy
JAMES A. GREENE, M.D., Houston
Professor of Medicine, Baylor University
College of Medicine</p> <p>9:45 Small Bowel Obstruction
BERNARD C. BARNES, M.D., Des Moines</p> <p>10:30 Recess to visit exhibits</p> <p>10:45 Allergic Conditions Seen in General Practice
J. HARVEY BLACK, M.D., Dallas
Professor of Clinical Medicine, South-
western Medical College of the University
of Texas</p> <p>11:15 Fractures of the Distal End of the Radius
FREMONT A. CHANDLER, M.D., Chicago
Professor of Orthopedic Surgery
University of Chicago School of Medicine</p> <p>11:45 Recess for lunch</p> <p>1:30 Centenary of the Iowa State Medical Society
WALTER L. BIERRING, M.D., Des Moines
Chairman, Historical Committee, Iowa
State Medical Society</p> | <p>2:00 The Road of No Return
MARJORIE SHEARON, Ph.D., Washing-
ton, Legislative Analyst</p> <p>2:30 Try To Be That Person Yourself
MR. LEONARD E. READ, President
Foundation for Economic Education
New York City</p> <p>3:15 Recess to visit exhibits</p> <p>3:30 Psychotherapy in General Practice
JACQUES S. GOTTLIEB, M.D., Iowa City
Professor of Psychiatry, State University
of Iowa College of Medicine</p> <p>4:00 Advances in Thoracic Surgery with Special
Reference to Indications for Pulmonary Re-
section
WILLIAM E. ADAMS, M.D., Chicago
Professor of Surgery, University of Chicago
School of Medicine</p> |
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Wednesday, April 26

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| <p>9:00 Red Lights in Obstetrics
SAMUEL A. COSGROVE, M.D., Jersey City
Clinical Professor of Obstetrics, Columbia
University Faculty of Medicine</p> <p>9:45 The Importance of Emotional Tensions in
Children's Medical Problems
REYNOLD A. JENSEN, M.D., Minneapolis
Associate Professor of Pediatrics and
Psychiatry, University of Minnesota
Medical School</p> | <p>10:30 Recess to visit exhibits</p> <p>10:45 Gynecologic Endocrinology in General Prac-
tice
WILLARD M. ALLEN, M.D., St. Louis
Professor of Obstetrics and Gynecology
Washington University School of Medicine</p> <p>11:30 Report of House of Delegates and Installation
of President</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

LOCAL COMMITTEES

General Chairman—F. G. Ober, M.D.

Banquet Committee

John C. McKitterick, M.D., Chairman
Robert S. Bell, M.D.
Elwood P. Russell, M.D.
Evan A. Peterson, M.D.

Golf Committee

Kenneth M. Coyne, M.D., Chairman
Roy A. Hulse, M.D.
Harvey Eastburn, M.D.

Housing Committee

Robert D. Rowley, M.D., Chairman
Wayne R. Lee, M.D.
George W. Wilkinson, M.D.

Local Arrangements

Carl J. Lohmann, M.D., Chairman
Robert F. Moerke, M.D.
Donal C. Peterson, M.D.

Liaison Committee for Woman's Auxiliary

George B. Crow, M.D., Chairman
Jonathan H. Murray, M.D.
Jesse L. Saar, Jr., M.D.

HOUSING

Any physician desiring housing during the Centennial Meeting should write Dr. Robert D. Rowley, Medical Arts Building, Burlington, at once. Dr. Rowley will endeavor to procure rooms for everyone, but it is essential he know as far in advance as possible how many will be needed.

GUEST SPEAKERS



J. HARVEY BLACK, M.D.
Dallas



REED M. NESBIT, M.D.
Ann Arbor



MARJORIE SHEARON, Ph.D.
Washington, D. C.



WENDELL G. SCOTT, M.D.
St. Louis



WILLARD M. ALLEN, M.D.
St. Louis



SAMUEL A. COSGROVE, M.D.
Jersey City



ALAN R. MORITZ, M.D.
Cleveland

SECTION MEETINGS

Eye, Ear, Nose and Throat Section

Dean M. Lierle, M.D., Iowa City, Chairman

Monday, April 24

West Ball Room, Hotel Burlington

- 9:00 The Cataract, A Medical Problem
A. D. RUEDEMANN, M.D., Detroit, Mich.
- 9:30 Complications of the Second Cataract
JOHN H. MATHESON, M.D., Des Moines
Discusser:
PLACIDUS J. LEINFELDER, M.D., Iowa City
- 10:00 The Use of Newer Antibiotics in the Treatment of Denticular Keratitis
ALSON E. BRALEY, M.D., New York City
Discusser:
F. HAROLD REULING, M.D., Waterloo
- 10:30 The Management of Lacrimal Duct Obstruction
CARL A. NOE, M.D., Cedar Rapids
Discusser:
VERNE R. HEIMANN, M.D., Sioux City
- 11:00 Glaucoma Surgery
OTIS R. WOLFE, M.D., Marshalltown
Discusser:
LELAND H. PREWITT, M.D., Ottumwa
- 11:30 Adjourn for the General Session in the Memorial Auditorium
- 12:15 Luncheon and Business Meeting, West Ball Room, Hotel Burlington
- 2:00 The Status of Antihistaminic Therapy
GORDON F. HARKNESS, M.D., Davenport
Discusser:
JAMES A. DOWNING, M.D., Des Moines
- 2:30 Tonsillectomy and Poliomyelitis, Southwestern Iowa, 1948-49
JACK V. TREYNOR, M.D., Council Bluffs
Discusser:
THOMAS R. UPDEGRAFF, M.D., Iowa City
- 3:00 Mixed Tumors of the Parotid
WALTER A. KIRCH, M.D., Des Moines
Discusser:
EDWARD T. CAREY, M.D., Clinton
- 3:30 Nasal Allergy
GEORGE W. BATES, M.D., Iowa City
Discusser:
PAUL M. SEEBOHM, M.D., Iowa City
- 4:00 The Causes and Treatment of Epistaxis
WAYNE R. LEE, M.D., Burlington
Discusser:
WAYNE J. FOSTER, M.D., Cedar Rapids

Iowa Obstetric and Gynecologic Society

Walter J. Balzer, M.D., Davenport, Chairman

Wednesday, April 26

East Ball Room, Hotel Burlington

- 12:30 Luncheon
- 2:00 Panel Discussion on Obstetrics
SAMUEL A. COSGROVE, M.D., Jersey City
- 3:00 Panel Discussion on Gynecology
WILLARD M. ALLEN, M.D., St. Louis

Iowa Pediatric Society

Morgan J. Foster, M.D., Cedar Rapids, Chairman

Wednesday, April 26

Mercy Hospital

- 12:30 Luncheon
- 2:00 The Pediatrician's Role in Avoiding Emotional Problems in Children
REYNOLD A. JENSEN, M.D., Minneapolis
- 2:30 Alloxan Therapy for Children with Hyperinsulinism
J. EDWARD GRIFFITH, JR., M.D., Iowa City
- 3:00 Uric Acid and Creatinine Excretion in Children with Diabetes Mellitus
BRUCE MARSHALL, M.D., Iowa City
- 3:30 Growth and Development of Infants Receiving a Proprietary Preparation of Evaporated Milk with Dextramaltose and Vitamin D
LORRAINE FROST, M.D., Iowa City

Section Chairmen

- Medicine—LESLIE W. SWANSON, M.D., Mason City
- Surgery—CLIFFORD W. LOSH, M.D., Des Moines
- Eye, Ear, Nose and Throat—DEAN M. LIERLE, M.D., Iowa City
- Obstetrics—WALTER J. BALZER, M.D., Davenport
- Orthopedics—ROBERT M. WRAY, M.D., Cedar Rapids
- Pediatrics—MORGAN J. FOSTER, M.D., Cedar Rapids

Special Luncheons and Dinners

Munday, April 24

EYE, EAR, NOSE AND THROAT GROUP

West Ball Room, Hotel Burlington
Luncheon—12:15 p.m.

IOWA ACADEMY OF GENERAL PRACTICE

East Ball Room, Hotel Burlington
Dinner—6:30 p.m.

Address: Horace M. Korn, M.D., Iowa City

IOWA ASSOCIATION OF PATHOLOGISTS

West Ball Room, Hotel Burlington
Business Meeting—5:00 p.m.
Social Hour and Dinner—6:00 p.m.

IOWA X-RAY CLUB

Eastman Room, Hotel Burlington
Dinner—6:30 p.m.

Address: Rapid Automatic Serialization of X-Ray
Exposures in Cardiovascular and
Cerebral Angiography

WENDELL G. SCOTT, M.D., St. Louis

IOWA SOCIETY OF ANESTHESIOLOGISTS

Mirror Room, Hotel Burlington
Dinner—6:30 p.m.

Tuesday, April 25

IOWA NEUROPSYCHIATRIC SOCIETY

East Ball Room, Hotel Burlington
Luncheon—12:15 p.m.

IOWA ORTHOPEDIC CLUB

Mirror Room, Hotel Burlington
Luncheon—12:15 p.m.

PLANNED PARENTHOOD

Union Hotel

Luncheon—12:15 p.m.

Tuesday Night, April 25

Annual Banquet

All Ball Rooms, Hotel Burlington

Social Hour—6:00 p.m.
Dinner—7:00 p.m.

All Doctors, Wives and Guests invited

Wednesday, April 26

IOWA OBSTETRIC AND GYNECOLOGIC SOCIETY

West Ball Room, Hotel Burlington
Luncheon—12:30 p.m.

IOWA PEDIATRIC SOCIETY

Luncheon—12:30 p.m.
Mercy Hospital

House of Delegates

First Meeting, Sunday Evening, April 23

8:00 p.m.

West Ball Room, Hotel Burlington

Roll Call

Approval of Minutes of Thursday Morning Session,
1949

President's Address

President-Elect's Address

Reports of Officers

Reports of Committee Chairmen

Memorials and Communications

New Business

Election of Committee on Nominations

Second Meeting, Wednesday Morning, April 26

8:00 a.m.

West Ball Room, Hotel Burlington

Roll Call

Reading of Minutes

Report of Committee on Nominations

Election of Officers

Reports of Committees

Unfinished Business

New Business

Announcement of Committees

Adjournment

STATE SOCIETY OF IOWA MEDICAL WOMEN and AMERICAN MEDICAL WOMEN'S ASSOCIATION, BRANCH 19

The State Society of Iowa Medical Women will
meet Tuesday evening, April 25.

Golf Tournament

Burlington Country Club

10:00 a.m.

Sunday, April 23

Kenneth M. Coyne, M.D., Chairman

Woman's Auxiliary

For program, see page 143 in Journal, Woman's
Auxiliary News.

SCIENTIFIC SECTION

STROKES—THEIR EVALUATION AND TREATMENT

Abe B. Baker, M.D., Minneapolis

The term *stroke* has, over a period of time, become associated with two concepts, one, clinical and one, pathologic. Clinically, it has become restricted to the acute onset of motor manifestations such as weakness or paralysis; pathologically, it has been limited to lesions resulting almost exclusively from a cerebrovascular accident. Actually both of these inferences are for the most part incorrect. It might be best to first consider the clinical implications of a so-called stroke:

The term *stroke* as it is used today indicates some focal symptom of brain dysfunction. If such an assumption is correct, then the manifestations of the stroke will be as varied as the accepted function of the brain itself. The physician generally is not concerned with the more finite disturbances of brain function and may well avoid such disturbances in a routine diagnosis. However, there are numerous gross functions of the brain with which every doctor is familiar, and it is the disturbances in these gross functions which must be considered in any attempt to evaluate or to make a diagnosis of stroke. These functions can be readily listed in table 1, which indicates in one column the symptoms which the patient will manifest and in the opposite column the region of the brain involved.

Table 1.—*Apoplexy—Clinical and Anatomic Types*

Weakness or paralysis.....	Motor system
Convulsive twitchings.....	Pre-Rolandic gyrus
Sensory disturbances.....	Postcentral gyrus
Visual disturbances (fields).....	Occipital
Vertigo (dizziness).....	Temporal
Aphasia (speech disturbance).....	Temporoparietal
Memory impairment.....	Frontal
Disturbance of consciousness.....	Frontal, posterior part of third ventricle
Ataxia.....	Cerebellum
Dysarthria, dysphagia.....	Brain stem

The concept of a stroke does not offer an etiologic diagnosis but merely redescribes the patient's symptoms in vague and indefinite terms. The terms *stroke* and *cerebrovascular accident* have often been used synonymously; however, except for the older age group, a cerebrovascular accident is a relatively uncommon offender. Since it is most important for the physician to be able to offer an etiologic diagnosis before he can institute adequate therapy, it might be well to review the possible etiologic factors producing a

stroke as they appear in the different age groups. In the following discussion the most important diagnostic symptoms or signs will be italicized for emphasis. It can readily be seen that the clinical manifestations of a stroke can vary from such grossly obvious disturbances as paralysis to such less readily recognized manifestations as a slight vertigo or visual field defect. It must be appreciated that the clinical symptomatology does not indicate the severity or the size of the lesion within the brain. A small stroke involving the internal capsule can produce a complete and dramatic hemiplegia. On the other hand a large lesion involving various silent areas in the brain such as the frontal or temporal lobes may go unrecognized, and the patient's complaints of headache and slight vertigo may be minimized even though a large lesion is present.

INFANCY (0-2 YEARS)

1. **Subdural hematoma.**—This is one of the most commonly overlooked syndromes of cerebral injury in infancy. Such hematomas may result from many causes, such as infectious diseases (whooping cough, measles, acute sepsis),¹ hemorrhagic diatheses (purpura, scurvy)² and finally trauma. Often a history of injury is not obtained. However, when one considers the many possibilities of such cranial accidents during either birth or the first few years of life, it is readily apparent that trauma must play an important etiologic role in such lesions.

The symptoms may be slow or sudden in onset and consist of a *gradual enlargement of the head* with or without associated vomiting and convulsions. Any infant developing restlessness, somnolence and motor weakness should be suspected of having a subdural hematoma.

The diagnosis is readily established by *subdural taps through the fontanel*. The symptoms are relieved by evacuating and removing the hematoma surgically.

2. **Infectious diseases** (scarlet fever, pneumonia, measles, whooping cough.)—These diseases are widespread in distribution and are so common that they are accepted as being of no consequence by most parents and physicians. Still, many of these illnesses result in low grade cerebral involvement and may produce definite, striking focal symptoms resembling the stroke syndrome. Of the infectious diseases, whooping cough and pneumonia produce the greatest num-

*Division of Neurology, University of Minnesota Medical School. Presented at the Ninety-Eighth Annual Session, Iowa State Medical Society, Des Moines, April 18-21, 1949.

ber of cerebral complications in this age group. Actually there is no correlation between the severity of the infectious disease and the cerebral involvement. In many cases with only a mild illness severe complications may result. It is in these cases that the etiologic significance of the infectious disease is entirely overlooked.

The prognosis in such cases must be guarded. It is generally good as to survival of the patient but poor as to recovery from the damage resulting to the nervous system.

CHILDHOOD (3-10 YEARS)

1. **Infectious diseases.**³—Because these diseases are frequent in this age group, they naturally play a prominent role in the production of cerebral accidents. The illnesses most commonly encountered are measles, chicken pox, scarlet fever, rheumatic fever and pertussis. It has been estimated that less than 0.5 per cent of the infectious diseases are accompanied by a recognizable cerebral complication; however, when one considers the tremendous number of children who have these diseases, then even 0.5 per cent becomes a large number.

Generally the cerebral complications following measles and scarlet fever are the most permanent and damaging; in the others recovery generally eventuates. The diagnosis of such accidents are made by means of a *good history* of the existing or preceding illness.

2. **Tumors.**⁴—That brain tumors can and do occur in children is much too often overlooked. In fact, brain tumors are the most common new growth occurring in this age group. The most frequent location of these tumors is in the posterior fossa, resulting in signs and symptoms of increased intracranial pressure (nausea, vomiting, headache, vertigo, choked disc). Tumors of the cerebral hemispheres also occur but are less common.

Any child that develops evidence of brain involvement which continues to be *progressive over a period of weeks or months* must be studied for a brain tumor. The associated presence of a choked disc or of cerebellar symptoms is strengthening evidence for such a lesion. It is important to detect such lesions early, since many of the tumors in children can be surgically removed, resulting in complete recovery of the patient.

3. **Embolic phenomena** (rheumatic fever, bacterial endocarditis).—This acute infection affects almost 1 per cent of our childhood population. It manifests itself by fairly characteristic symptoms and signs, such as a history of painful joints, weight loss, *irregular fever*, leukocytosis, *accelerated sedimentation rate*, petechiae and a

cardiac murmur. The cerebral complications result either from an actual arteritis of the cerebral vessels or from emboli from a valvulitis. The nervous system involvement is characterized by the sudden onset of convulsions, coma or focal symptoms. In those cases that do not prove fatal the cerebral symptoms frequently will subside considerably. When such a lesion is suspected, a *blood culture* should always be made. Treatment naturally is directed toward the primary illness.

4. **Intoxicants.**—In this age group the most likely poisonings are from such substances as lead, thallium and drugs. The findings are too numerous to discuss at this time. However, in any child that develops the picture of a stroke the possibility of intoxications must always be considered. This is particularly true of the patient who develops a sudden onset of *coma or convulsions with a suppression of all the deep reflexes*.

5. Blood dyscrasias.

(a) Thrombocytopenic purpura is a severe purpura of childhood showing a marked *reduction of the blood platelets*. Hemorrhages occur into all organs including the brain. Coagulation time of the blood is normal. The *capillary resistance test is positive*. When the disease is severe, splenectomy may be of great value. Once the disease is controlled, the central nervous system involvement improves.

(b) Hemophilia is a hereditary disease confined to males. The diagnosis is readily made by the *history* and by the *tendency to bleed* even after a most trifling injury. Cerebral complications tend to be acute in onset, mild in degree and reversible. Numerous recurrences of cerebral insults are the rule. Treatment is directed at the primary illness.

6. **Malignant hypertension** (renal disease, coarctations of the aorta, essential).—In some children a stroke may develop on the basis of a cerebrovascular accident secondary to a *hypertension*. Such an etiology is readily detected during the general examination. When such a hypertension is encountered, the child should always be investigated for the presence of a coarctation of the aorta or for a chronic renal disease. The symptoms and signs of both these conditions are well known and need not be elaborated upon here.

ADOLESCENCE (11-20 YEARS)

1. **Infectious diseases.**—The infectious diseases in this age group are similar to those of childhood. Diphtheria occurs more frequently in adolescence and can produce characteristic stroke

symptoms, particularly during the period of convalescence.

2. **Embolic.**—Emboli to the brain during adolescence are usually due to a bacterial endocarditis. The clinical picture has already been considered.

3. **Intoxicants.**—These have already been considered in the previous age group.

4. **Ruptured aneurysm.**—Small congenital aneurysms occasionally occur at the angles of bifurcation of the cerebral arteries. These aneurysms may rupture and produce extensive subarachnoid and even intracerebral hemorrhage. The clinical picture is fairly characteristic and consists of a *sudden onset of severe suboccipital head pain*, vertigo and vomiting followed by a *variable degree of collapse*. The neck is rigid, and there is *blood in the spinal fluid*. The outlook in these cases is not good, the fatality rate being high. Treatment consists of rigid bed rest and supportive measures. If the aneurysm can be located by angiography, then surgical ligations may be considered.

5. **Multiple sclerosis.**—This disease is more common in the next age group and will be discussed at that time.

YOUTH (21-35 YEARS)

1. **Multiple sclerosis.**—This disease is assumed to be degenerative, involving scattered areas throughout the nervous system. Apoplectic seizures are occasionally seen. *Any case of apoplexy in a young adult should always remind one of the possibility of this disease*. Generally the examination will reveal evidence of scattered damage to the nervous system. The clinical symptoms tend to undergo *remissions* and *exacerbations*, so the prognosis for any single attack is generally good. There is no specific treatment for this disease, although many drugs are being used.

2. **Ruptured aneurysm.**—This condition is frequent in youth and together with multiple sclerosis comprises a good share of the stroke syndromes in this age group. The clinical picture has already been discussed.

3. **Tumor.**—Brain tumors, although not too frequent during this age group, still must be considered in individuals over 30 years of age developing *progressive brain dysfunction*.

4. **Intoxicants.**—The intoxicants causing trouble in this group consist chiefly of carbon monoxide, the heavy metals and alcohol. In all these cases the *history* is the best and often the only means of diagnosis. It is usually necessary to inquire specifically as to exposure to these

various exogenous poisons. Subacute or chronic carbon monoxide poisoning is particularly overlooked and still may play an important role in the production of brain damage.

MIDDLE AGE (36-60 YEARS)

1. **Vascular.**—There is a common misconception that cerebrovascular accidents occur frequently in healthy middle-aged individuals; hence, most strokes occurring during this age group are so diagnosed. Such an attitude generally restricts further investigation and often interferes with an accurate evaluation of the patient's illness. It must be kept in mind that the cerebral vessels normally are fairly well preserved in this age group. Only in the presence of *hypertension* or *diabetes* should one willingly label a stroke in these patients as a cerebrovascular accident. In the absence of such associated illnesses one must seek further for the cause of the brain damage.

2. **Neurosyphilis.**—Both general paresis and meningovascular syphilis are capable of producing the typical stroke symptoms and signs. In this age group particularly, neurosyphilis plays a prominent etiologic role. Every adult stroke patient should have a *spinal fluid evaluation* to determine the possible presence of such an infection. The correct diagnosis is of utmost importance since specific therapy is available for the various types of cerebral lues. Early and adequate treatment almost always will result in dramatic improvement of the patient.

3. **Tumor.**⁴—Cerebral tumors, particularly the gliomas, occur most frequently during the fourth to the sixth decades. The nature of the clinical symptoms naturally will depend upon the part of the brain involved by the tumor. Since tumors are growing lesions they are characterized by *focal lesions of a progressive nature*. Any such complaint must be considered as a tumor unless proved otherwise. The rapidity of the progression of symptoms will depend upon the nature and location of the tumor. Space will not allow for a discussion of tumor types. The development of increased intracranial pressure is generally sufficient additional evidence to warrant a diagnosis of brain tumor. Since metastatic tumors to the brain are not uncommonly encountered, every brain tumor suspect should be investigated for such a possibility. This is most easily accomplished by obtaining a *chest plate* to establish the possibility of either pulmonary metastases or a primary lung lesion. The skin (melanomas), breasts and gastrointestinal tract should also be checked fairly carefully for a primary lesion.

4. **Multiple sclerosis.**—This disease is some-

what less frequent during this age group but still must be considered in all individuals under 40 years of age. Multiple sclerosis may occur in even older patients so that age alone is not adequate to eliminate this disease as a causative factor in any stroke.

5. **Intoxicants.**—Alcohol is the most commonly encountered intoxicant in this age group. Brain damage usually results in individuals who are chronic alcoholics. One should always consider such an etiologic possibility in the presence of a *coarse tremor* of the hands and tongue and severe paresthesias of the lower extremities.

6. **Subdural hematoma.**⁵—In adults the clinical picture in subdural hematomas is very different from that encountered in children. Most often there is a slow development of headache, vomiting and drowsiness. In the occasional acute case the onset may be abrupt with sudden loss of consciousness and no prodromal complaints. In many cases the mental picture predominates. The patients become morose, forgetful, clouded and often retarded. This diagnosis should be considered in any patient developing the above symptoms in the presence of a history of *trauma or alcoholism*. Confirmation of diagnosis can be established by air studies, angiography or trephine exploration of the meninges.

7. **Polycythemia vera and hypoglycemia.**—These are less common causes of the stroke syndrome. They should be kept in mind since both can be easily evaluated by relatively simple laboratory procedures.

SENESCENCE (61-80 YEARS)

1. **Vascular disease.**—It is in this older age group that cerebrovascular accidents predominate in the causation of brain damage. Pathologically, the cerebral changes may be due to either a hemorrhage or a thrombosis. In many patients it is impossible to differentiate these two processes. However, there are a number of features that

may help in such a differentiation. These are listed in table 2.

2. **Tumors; neurosyphilis; subdural hematoma.**—All these conditions play a part in the production of brain damage in some elderly individuals.

COMPLICATIONS OF APOPLEXY

There are numerous complications that occur in patients recovering from a stroke. These are listed in table 3:

Table 3.—Complications of Apoplexy

1. Thalamic pain (syndrome of Déjérine-Roussy)
2. Convulsive disorder
3. Intellectual deterioration
4. Speech disorders (aphasia, dysarthria)
5. Hemiplegia
6. Incapacitation due to inadequate therapy

The thalamic pain and the intellectual deterioration do not lend themselves to any presently known form of therapy. The convulsive seizures generally can be well controlled on adequate drug therapy. The remainder of the focal disabilities, particularly the aphasia and motor phenomena, lend themselves well to a program of retraining.

TREATMENT

The immediate care of the stroke patient consists of general medical treatment and good nursing care. Medical procedures and therapy for the underlying disease is begun immediately upon arrival at the hospital. Nursing care of these patients is of the utmost importance in order to (1) prevent contractures (by passive movements of the extremities through a full range of movement), (2) avoid hypostatic pneumonia (by frequent change of patient's position, removal of nasal and oral secretions), (3) prevent decubital ulcers (by close attention to skin hygiene), (4) institute a schedule for eating, bowel habits, waking and sleeping as the patient begins to improve. The nurse because of early contact with the patient, encouraging him to help himself, is the first step in rehabilitation.

Table 2.—Clinical Differential Diagnosis of Apoplexy

	Hemorrhage	Thrombosis	Embolus
1. Age at onset	50+ (middle age)	65+ (senescence)	10+ (adolescence-youth)
2. Previous indications	History of hypertension	1. History of diabetes, nephritis, syphilis, arteriosclerosis 2. Prodromal symptoms; headache, vertigo, poor memory	History of cardiac disturbances, (mitral stenosis, fibrillating heart, coronary, endocarditis)
3. Nature of onset	1. Rapid (hours) 2. During activity—straining, lifting, etc.	1. Slow (days) 2. During rest—often during sleep	1. Fulminating (minutes) 2. During rest or activity
4. Clinical features	1. Loss of consciousness (coma) 2. Signs of increased pressure	No loss of consciousness	Rapid loss of consciousness
5. Spinal fluid	Blood-tinged	Clear	1. Pleocytosis 2. Moderate increased red blood cells
6. Prognosis	Grave—30% die 1st day 60% die 1st week	Fair—30% die 1st week	Good, depending upon etiology

Most stroke patients, depending upon the severity and cause of the involvement, are kept in bed from three to six weeks. As soon as the acute symptoms have subsided and while the patient is still bedridden, physical therapy should be instituted to prevent deformities by the use of passive movement. Between therapy periods, footboards, sandbags and splints may be used to maintain proper position of the limbs. As the patient improves, he is encouraged to use the affected extremity as much as possible and to care for his own bedside needs. Heat, massage and hydrotherapy may be used for painful extremities and joints.

Ambulation is started when the patient is strong enough to bear weight on the affected limb. He usually is started by balancing within parallel bars and progresses through the normal stages of ambulation, namely, crutch gaits, cane gaits and, when possible, walking without aids. Special attention should be given to stair climbing.

Speech therapy is often helpful in patients with speech disturbances and should be instituted early. Because of their disability, many of these patients may have to learn new vocations.

This process of rehabilitation of the stroke patient is an important part of the total treatment program and must be instituted in every case. It generally can be carried out, even in the home, provided that the doctor understands his goal, is sympathetic toward it and is willing to spend a little time with the family and the

patient in outlining and directing the course of therapy. Members of the family can be taught to carry out passive movement in appropriate cases. Self-care and ambulation activities, particularly in milder cases, may not need a trained therapist and can be carried on by the family under the supervision of the physician.

The outlook for functional recovery naturally is variable from patient to patient and can be determined only by careful neurologic evaluation from time to time. All patients with a hemiplegia, however, regardless of the degree of recovery, are capable of ambulation if given adequate rehabilitation therapy.

Conclusions

1. Clinically the manifestations of a stroke can be most variable and will depend upon the region of the brain damaged. It is of utmost importance not to restrict this diagnosis to those patients showing only weakness or paralysis.

2. From the etiologic point of view strokes result predominantly only in the older age group. The etiology of strokes is directly related to the age of the patient and can be tabulated as in table 4.

3. Only after the cause of the stroke has been determined can adequate treatment be instituted. Under a proper course of treatment, which can be carried out very simply either in the hospital or even in the home, most patients with a stroke can be rehabilitated so that they can care for them-

Table 4.—*Strokes: Presumptive Diagnosis Based Upon Age at Onset*

Age at Onset	Cause
Infancy—0-2 years	1. Subdural hematoma 2. Infectious diseases (scarlet fever, pneumonia, influenza, measles, etc.)
Childhood—2-10 years	1. Infectious diseases (infectious arteritis?) 2. Tumors 3. Trauma 4. Embolic (cardiac)—rheumatic fever, bacterial endocarditis 5. Intoxicants (arsenic, C.O., lead) 6. Blood dyscrasias (thrombopenic purpura, hemophilia) 7. Malignant hypertension (renal disease, coarctation of aorta, essential)
Adolescence—10-20 years	1. Infectious diseases 2. Embolic (cardiac) 3. Intoxicants 4. Rupture aneurysm 5. Blood dyscrasias 6. Multiple sclerosis
Youth—20-35 years	1. Multiple sclerosis 2. Rupture aneurysm 3. Tumor 4. Intoxicants (C.O., lead, alcohol)
Middle Age—35-60 years	1. Vascular (hypertension, diabetes) 2. Neurosyphilis (paresis, meningo-vascular) 3. Tumor 4. Multiple sclerosis 5. Intoxicants (alcohol) 6. Subdural hematoma 7. Polycythemia vera 8. Hypoglycemia
Senescence—60-75 years	1. Vascular (hemorrhage, thrombosis, arteriosclerotic) 2. Tumor 3. Neurosyphilis 4. Subdural hematoma 5. Degenerative

selves and in the less severely involved and younger cases can even be self sufficient on a social or economic level.

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SURGICAL TREATMENT OF ACHALASIA OF THE ESOPHAGUS

Forrester Raine, M.D., Milwaukee, Wis.

I have chosen the term *achalasia of the esophagus* rather than *cardiospasm* because I believe it more nearly describes the cause of the syndrome of dilatation of the upper esophagus and constriction of the lower esophagus without evidence of organic obstruction. There have been many terms applied to this condition, including *idiopathic dilatation of the esophagus*, *ectasia of the esophagus*, *megaesophagus*, and numerous others, which variation attests our lack of knowledge of the actual abnormalities existing as well as our ignorance of the true cause of the condition.

Cardiospasm was the term used for years because the earlier investigators felt that there was an actual spasm at the cardiac end of the esophagus which prevented the passage of food and caused the dilatation of the upper esophagus. This premise has been difficult to support in view of the fact that the undilated portion of the esophagus appears to be normal esophageal wall with no thickening of the muscle, whereas the upper dilated portion gradually shows increasing thickness of the wall as stagnation of food occurs over many years. Achalasia, indicating a lack of relaxation of the lower end of the esophagus to permit passage of food, would seem to describe the actual condition much more correctly.

There have been, of course, quite a few theories as to the reasons for the development of this condition. These probably go back as far as Willis, in 1672, who felt that it was an actual organic obstruction and treated the patient by dilatation with a whale-bone bougie. Since then, Mikulicz, in 1882, felt that the entire cause was a spasm of the cardiac end which resulted in obstruction and therefore dilatation of the proximal segment of the esophagus.

I have already stated the difficulties in accepting this hypothesis because we do not find the muscular hypertrophy, such as is found in pyloric stenosis, to support this idea of continued or persistent spasm. It seems more probable that there is a lack of coordination in the neuromuscular apparatus which causes failure of the cardiac end to relax as muscular waves pass down the esophagus propelling food, and because of this failure of relaxation, the esophagus above this point hypertrophies for a time in an attempt to push the food through the unrelaxed segment. Actual proof of this hypothesis is lacking. Abnormalities in Auerbach's plexus have been described, but almost all of these have been post-mortem findings, and other observers have noticed similar changes seen after death in the plexus in other portions of the gastrointestinal tract. Precise knowledge of the etiology of this condition is lacking, and for this reason treatment has not been as successful as we would like.

Before discussing treatment of achalasia, it would be well to review briefly the clinical course of the disease, so that one might have a more firm foundation for evaluating treatment.

Many references are found in reports on this syndrome of the emotional instability of many of the patients. The disease seems to have its inception following emotional upsets, and it would certainly appear that many exacerbations follow emotional stress. On the other hand, physicians who have had the widest experience in the treatment of this syndrome, such as Vinson,⁴ feel that there is no more emotional instability in these patients than in those having most types of diseases.

The disease usually begins with the patient being aware of his esophagus. He is conscious of swallowing. This consciousness may remain only at this level for months before real difficulty in swallowing occurs. Then he may need to wash food down with liquid, and he soon learns that warm liquid helps whereas cold liquid hinders. In fact, the first symptom in some instances may be the inability to swallow cold liquids.

As appreciable difficulty in swallowing develops, pain becomes a rather prominent symptom. This pain is immediately beneath the xiphoid at first, then beneath the entire sternum, and finally may extend up the neck, curiously enough, into one or both ears. The untreated disease finally progresses to the point where no food can be forced past the lower end of the esophagus into the stomach. Loss of weight, which may be great, occurs. Because of the stagnation of food the breath may be foul, and when the patient lies down, regurgitation of food into the pharynx or

an occasional spill-over into the trachea may occur.

Wooler,² in a paper read before the Society of Thoracic Surgeons in Great Britain in 1947, gave an excellent description of fluoroscopic findings in the stages of achalasia. He noted and described quite clearly the movements of the esophagus in swallowing, first in normal individuals and then in those with achalasia.

The esophagus is divided into two segments: The upper segment, extending almost to the arch of the aorta, is composed of striated muscle and is supplied by the recurrent laryngeal nerve. This segment is, therefore, primarily voluntary, although there are nonstriated muscle fibers mixed in with the striated towards the lower end of this upper segment. The primary wave of muscular contraction in the esophagus is initiated by swallowing and begins in the upper one-third and proceeds downward the esophagus. The esophagus above the wave remains contracted, so that food tends to be forced into the lower segment. Secondary muscular waves originate at about the level of the aortic arch and are seen as a contracting band passing down the esophagus. These waves are not quite similar to peristaltic waves in the intestine, in that no relaxation wave appears to occur before the contraction wave. The

soon they fail to pass through, and violent muscular contractions occur in the esophagus in an attempt to force the contents through. Dilatation of this upper segment gradually occurs and progresses until the esophagus may be two or three times its normal diameter. In the final stages of achalasia the esophagus is tremendously dilated, and no muscular waves can be seen passing over its surface. It seems to be a large thick-walled, immobile bag which lies in the mediastinum, encroaching on both thoracic cavities but much more so on the right, with only a fine trickle of liquid passing through into the stomach.

As the dilatation of the esophagus progresses, it also elongates and in more advanced stages will be sigmoid in contour, appearing to be 3 or 4 inches longer than it should be to bridge the gap between neck and diaphragm.

The diagnosis of achalasia is usually relatively easy. The history of difficulty in swallowing for a considerable period of time, in the early stages with relief from hot liquids, in the later stages accompanied by regurgitation of decomposed and undigested food, is fairly typical. X-Ray examination by barium mixture will show a dilated esophagus, its surface smooth, although the picture may be spotty because of retained food particles, with the lower end showing a smooth funnel-like contraction just above the diaphragm.

The diagnosis is virtually certain if the patient is given a string to swallow and a bougie is passed over this string guide and found to pass up to the size of 45 French with relative ease through the lower segment into the stomach.

Esophagoscopy is seldom necessary for the diagnosis, but if it is done, the esophagus will be found to contain a large amount of foul material. In the later stages of the disease superficial ulcers will be present in the mucosa, particularly at the lower end where the esophagus tends to lie transversely as it extends forward from back of the heart to reach the diaphragmatic opening.

Differential diagnosis is seldom difficult. Carcinomas of the lower end of the esophagus or of the cardiac end of the stomach involving the esophagus almost never show the degree of dilatation seen in achalasia, and the lower end is ragged instead of being a smooth funnel. The short esophagus type of hiatus hernia with ulceration and stricture at the line of junction of esophageal and gastric mucosa may show a fairly smooth surface, but there is almost never the extreme degree of dilatation above it, and one can usually recognize the presence of the hiatus hernia. Strictures of the esophagus due to burns

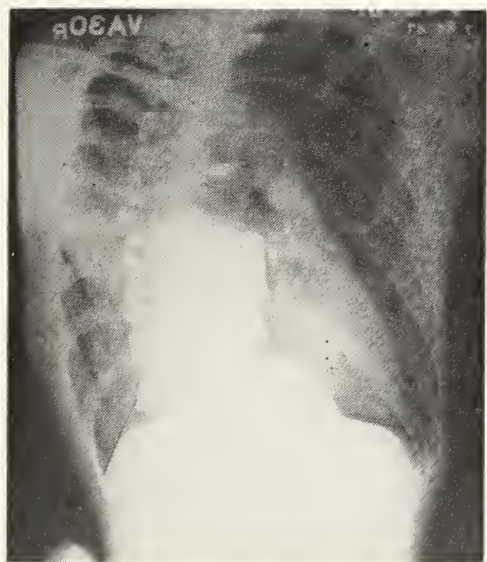


Fig. 1. H.A.H.—Age 27. Dysphagia, substernal pain and regurgitation of food for four years. Repeated hydrostatic dilatation of lower esophagus with only short periods of improvement. Note the sigmoid shape of the greatly dilated esophagus.

final type of muscular motion in the esophagus is in the lower plain muscle segment and consists of worm-like contractions which last only a short time.

In the early stage of achalasia the first few mouthfuls of barium pass into the stomach. But

do not present the degree of dilatation seen in achalasia, and the stricture is usually at a higher level.

Final differentiation can be made by the passage of a 45 French bougie, which will not pass readily through any of the other types of contraction mentioned.

While we are primarily discussing the surgical treatment of achalasia, I think it would be amiss not to mention the form of treatment which controls a large percentage of these patients. Dila-

appear that a large proportion of patients need operation, since their esophagi have not returned to normal following hydrostatic dilatation. But, if one depends upon symptom relief, a much smaller percentage would seem to need operation.

The open surgical treatment of achalasia goes back many years; since there have been several excellent reviews of this subject in recent years by Ochsner and DeBakey, by Gray and Skinner,³ by Clagett, Moersch and Fischer, and others, a detailed report would be superfluous.

Plication of the esophagus, shortening of the esophagus by invagination of its upper end into the lower, operations upon the diaphragmatic opening and those on the nerve supply have all been abandoned as being either dangerous or not productive of satisfactory results.

Operations to enlarge the narrow lower portion of the esophagus have been successful and have not been attended by an appreciable mortality rate. First of these to be practical was that performed by Heller in 1913, who made two longitudinal incisions through the musculature of the lower end of the esophagus down to the stomach, permitting the mucosa to bulge out similar to the Ramstedt operation for pyloric stenosis. This operation is still favored by Wooley, who feels that it does not permit as much reflux passage of the gastric contents when lying down as does an esophagogastrostomy. Esophagogastrostomy was first performed by Heyrovsky in 1912 and was modified by Grondahl in 1916, making the operation similar to a Finney pyloroplasty between the esophagus and the cardiac end of the stomach. This operation is the one done by most surgeons in recent years and is described in detail by Ochsner and DeBakey, Grimson, Gray and others. Most surgeons have preferred to do it transabdominally, bringing the dilated and elongated esophagus down through the diaphragm so that a fair amount of the dilated portion lies beneath the diaphragm. Esophagogastrostomy is then performed over a considerable length, so that it extends up into the actual dilated portion of the esophagus, traversing, therefore, all of the narrowed distal portion.

The results from this operation have been good, but few of the operators report return of the esophagus to normal size. Grimson does report that several of his patients have had a gradual diminution in size of their esophagi until they have virtually reached normal. Most others have found that, although the obstruction is relieved and these patients eat all foods with comfort, barium studies still reveal a much dilated esophagus. It is quite possible that this difference lies in the stage of the disease at which the operation



Fig. 2. H.A.H.—Two weeks after transthoracic esophagogastrostomy. The esophagus is much smaller but still dilated. Barium passed freely into the stomach. He does not have appreciable regurgitation when lying down.

tation of the lower end of the esophagus by a hydrostatic dilator, when properly placed, will relieve anywhere from 80 to 95 per cent of these patients. It is true that few of them will show a return to a normal-sized esophagus, but after thorough dilatation they will be able to eat virtually all foods with comfort. Some of them relapse, but a large majority of those relapsing will be relieved by additional dilatations. That this form of treatment is safe has been attested by Vinson, who has cared for 500 consecutive patients in this manner without a fatality.

The problem of additional surgical treatment, therefore, involves only a small percentage of these patients. This percentage has been placed at various figures, Ochsner and DeBakey¹ feeling that nearly 30 per cent require operation, whereas Clagett, Moersch and Fischer³ state that no more than 3 or 4 per cent need treatment other than hydrostatic dilatation.

If one is guided by the picture of the esophagus as shown by barium x-ray studies, it would

was done. In long-standing cases of achalasia, with tremendous dilatation and thick, immobile walls of the esophagus, it is difficult to believe that these changes are reversible and that the esophagus could ever shrink down to its normal size.

A review of the open operations upon the esophagus and stomach during the 1930's shows that there was a considerable death rate in those operated transthoracically, and for this reason most of the operations of esophagogastronomy reported since that time have been done transabdominally with satisfactory results and no deaths. Within the last few years transthoracic operations upon the esophagus have become so common and have been done with such a low mortality rate that it would seem now the actual approach to the operation was of no great moment.

Two patients treated by esophagogastronomy at the Veterans Hospital in Milwaukee were done by the transthoracic route. Excellent functional results have been obtained, but barium studies a year later showed the esophagi still markedly dilated, although there is a free flow of barium into the stomachs.

The response as far as pain is concerned has been good. Most of these patients complained bitterly of pain prior to operation but have stayed quite comfortable postoperatively in spite of their residual esophageal enlargement.

Summary

1. The clinical picture in the development of achalasia of the esophagus has been discussed.

2. A large proportion of these patients can be rendered symptom free and comfortable by hydrostatic dilatation of the lower end of the esophagus.

3. A few patients cannot be rendered symptom free or they require such frequent dilatations that operative intervention has seemed wise.

4. The modern types of operative treatment have been discussed, including Heller's cardiomyotomy and esophagogastronomy.

5. Two additional cases of esophagogastronomy performed transthoracically are reported.

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THE CYCLODIALYSIS OPERATION

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Introduction: Decompression operations for glaucoma may be divided into three main groups:

1. Operations to restore normal intraocular paths of drainage. Primary example of this is iridectomy and its various modifications.

2. Operations to form paths for extraocular drainage. The well known Elliot trephining operation. Holth's iridencleisis and the Lagrange iridosclerotomy come under this category.

3. Operations to open new intraocular paths of drainage. Under this are several operations, but the only one that has proved successful is the cyclodialysis.

Heine¹ in 1905 was first to report on an operative procedure to produce a communication between the anterior chamber and the suprachoroidal space through a detachment of the ciliary body from its insertion to the sclera. He named this operation *cyclodialysis*. He claimed that it functioned through the escape of aqueous humor from the anterior chamber through the surgically created cleft in the chamber angle into the suprachoroidal space where it is absorbed by the choroidal vessels. Subsequently other views have been presented to explain the mechanism of action of cyclodialysis. However, the histologic evidence of Elschnig,² the gonioscopic studies of Vannas,³ Barkan et al.,⁴ and the clinical observations of other investigators all tend to substantiate Heine's original concept.

Indications: The indications for cyclodialysis have changed remarkably since its introduction over 40 years ago. In 1908 Meller⁵ preferred cyclodialysis to iridectomy in certain cases because it was less dangerous. He also employed it in very hard eyes with shallow chambers, in hemorrhagic glaucoma, in aphakic eyes with fluid vitreous, in hydrophthalmic eyes, and in those cases in which the fellow eye had been lost through malignant glaucoma or through severe hemorrhage following iridectomy. In 1914 Wood⁶ stated in the *American Encyclopedia of Ophthalmology* that the real indication for this operation was an absolute glaucoma and in cases where it was impossible to perform an iridectomy because of the presence of high intraocular pressure. Fuchs,⁷ in 1924, considered that the operation should be reversed for cases in which other operations had failed or proved fatal to the fellow eye. It is obvious, therefore, that during the early days of the cyclodialysis operation its use was largely restricted to the more unfavorable cases, a limitation which undoubtedly accounted for the un-

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favorable results published in many of the earlier reports on this operation and which probably has left an unfavorable impression even to this day.

Many surgeons still consider the cyclodialysis an operation to be used only when everything else has failed. However, in more recent years ideas concerning its usefulness have changed for the better. In 1931 Gradle⁸ presented his indications for cyclodialysis: (1) simple noninflammatory glaucoma of the type just beyond the control of miotics, (2) simple glaucoma with high intraocular pressure and a visual field defect extending to within 10 degrees or less of the fixation point, and (3) after unsuccessful but technically correct iridectomy.

Barkan⁹ in 1941 broadened the scope of the operation to include the following types of primary glaucoma: (1) compensated or noncompensated wide angle chronic primary glaucoma, (2) buphthalmia in which an anterior reflection of the iris closes the angle, (3) juvenile glaucoma, (4) compensated or noncompensated narrow angle chronic primary glaucoma in the late stages, and (5) acute glaucoma with shallow chamber angle in later stages. For both types 4 and 5 he advised cyclodialysis combined with iridectomy.

In the eye department at the Iowa State University Hospitals we have performed the cyclodialysis operation on all types of glaucoma, secondary as well as primary. Except for hemorrhagic glaucoma, some success has been achieved in all types. Our best results, however, have been obtained in cases of chronic noncongestive glaucoma of both wide and narrow chamber angle types. Good results have also been found in selected cases of chronic congestive glaucoma. The cyclodialysis, of course, is exclusively indicated in glaucoma in aphakic eyes and in secondary glaucoma as the result of a posterior subluxation of the crystalline lens. Poorest results were obtained in glaucoma secondary to uveitis.

Advantages:

1. The operation gives a good cosmetic result. There is no excision of any ocular tissue.
2. The eye is subjected to less injury by cyclodialysis than by the Elliot, Lagrange or any other operation involving iris surgery.
3. The same operation can be repeated two or three times. Preferably, the second operation should be over a nonoperated area to obtain the best result.
4. There is no danger of infection.
5. Fewer complications follow this operation than other types.

Disadvantages: Troncoso¹⁰ claimed the operation was successful in only 20 per cent of cases. Similarly, other authors have reported that the relief of hypertension was usually temporary. However, with better technic and more care in the choice of patients we believe the percentage of success should be as great or greater than in other glaucoma operations.

Technic: Heine's original technic consisted of making a conjunctival incision 8 to 9 mm. from the limbus in one of the four quadrants between the recti muscles and baring the sclera. An incision was then made through the sclera 2 mm. wide and 4 to 5 mm. from and concentric with the limbus. Through this a spatula was inserted between the sclera and choroid into the anterior chamber for about 2 to 3 mm. The spatula then was swept back into the angle, severing the ciliary body attachment to the sclera, and on into the suprachoroidal space, first on one side and then on the other. Approximately one fourth of the circumference of the ciliary body was dialyzed.

Several modifications have been presented since Heine's report. One of the most important of these is the technic of Blaskovics.¹¹ In 1935 he presented a method which he named an *inverse cyclodialysis*. The spatula is introduced through a scleral incision made perpendicular to the limbus just in front of the superior rectus tendon incision. The spatula is held approximately parallel to the limbus and passed into the suprachoroidal space. It is then swept forward into the anterior chamber, separating the attachment of the choroid to the scleral spur. The direction of sweep of the spatula is just the reverse of the Heine method—hence the name *inverse cyclodialysis*. The spatula enters the anterior chamber to the extent of approximately 3 mm. Blaskovics claimed that with this maneuver there is less trauma to the iris and ciliary body than with the Heine technic. This is because the separation of the ciliary body attachment from the scleral spur is accomplished through the passage of the spatula along a natural line of cleavage. Again, as in the Heine technic, only slightly more than a quarter of the circumference of the ciliary body is dialyzed.

Dr. C. S. O'Brien, chairman of the department of ophthalmology at University Hospitals, for many years has taught the multiple thrust technic of cyclodialysis. The essential points of the operation are as follows:

1. Choice of site. Whenever possible gonioscopic examination is made before operation. Naturally, the chamber angle is not seen with the gonioscope in cases with shallow chambers. It is preferable to perform the cyclodialysis over an

area as free as possible from anterior peripheral synechiae and blood vessels. In addition we prefer not to perform the operation over a previously operated site. Whenever feasible the cyclodialysis is performed in the region of the upper chamber angle. If hemorrhage should occur, it will settle into the lower portion of the anterior chamber and so will not plug the newly created cleft.

2. Fixation. This is accomplished by a scleral suture placed just anterior to the site of the scleral incision. One may hold onto the suture with a mosquito forceps or a pair of tissue forceps. Fixation of the globe in this manner has been found to be most satisfactory.

3. The scleral incision. Before making the incision, the sclera is dissected bare of episcleral tissue, and any blood vessel in the immediate area of the incision is obliterated by touching it gently with the point of a heated probe or muscle hook. The incision is made with a scleratom, using a cut and pick technic. The cut is slightly beveled. By putting the sclera on the stretch through gentle pull on the sclera fixation sutures, the wound gapes slightly and sufficiently to permit the operator to see and sever the last few strands of scleral tissue easily, with little danger to the underlying uvea. The incision is approximately 4 mm. long.

4. The cyclodialysis. A grooved spatula similar to the Knapp iris spatula is used. It is 2 mm. wide, $\frac{3}{4}$ mm. thick and 12 mm. long, with a groove running through its entire length. With slight traction on the scleral suture (thus elevating the anterior lip of the scleral incision) and by slight depressing action on the posterior lip of the wound with the tip of the spatula, the blade, which is held approximately parallel to the scleral surface, passes easily and harmlessly into the suprachoroidal space with little danger of rupturing the ciliary body and entering the vitreous. The spatula hugs the posterior surface of the sclera as it goes forward until a slight resistance informs us we are at the site of the ciliary attachment to the scleral spur. Firm but gentle forward motion of the spatula will separate the two. As soon as the tip of the spatula appears in the chamber angle, it is withdrawn and the same process of dialysis is repeated in adjacent areas until one half of the circumference of the ciliary body is separated from the scleral spur. Should any hemorrhage in the anterior chamber occur, the tip of the spatula is kept in the anterior chamber for a short while and the blood is removed through absorption by placing a cotton sponge at the proximal end of the grooved spatula. The conjunctival wound is

closed by 2 to 3 single knot sutures of 4-0 mild chromic catgut on an atraumatic needle. A drop of 1 per cent pilocarpine is placed in the conjunctival sac and the eye dressed.

An important aspect of postoperative care is daily gentle massage of the operated eye. This should be carried on for some time.

Complications at the time of operation:

1. Hemorrhage into the anterior chamber is the most frequent complication reported. However, if proper precautions are observed, it is usually slight or absent.

2. Perforation of the uveal tract is possible while making the scleral incision. This may result in hemorrhage into the vitreous or a loss of vitreous. Proper use of the fixation suture and the scleratom will reduce this to a minimum.

3. Perforation into the vitreous chamber may occur while introducing the spatula into the suprachoroidal space. To avoid this the spatula should slide through the scleral wound parallel to the surface of the sclera.

4. Passage of the spatula behind the iris may occur because of anterior peripheral synechiae. This may be avoided by hugging the inner surface of the sclera with the spatula and introducing the tip very slowly when in the immediate region of the iris adhesions.

5. Damage to the posterior corneal surface by the spatula may result in deep scars. For this reason the spatula should not enter the anterior chamber for more than 1 mm.

Early postoperative complications:

1. Anterior chamber hemorrhage may arise from too vigorous massage. Repeated hemorrhages may occur in diabetics and patients with vascular diseases and blood dyscrasias.

2. Prolapse of uvea through the scleral incision may result if the scleral incision inadvertently is made too wide. In such event suture of the wound at the end of the operation is advisable.

3. Iritis is usually mild in glaucoma simplex and occurs one to two weeks after operation. The condition responds quickly to intravenous injection of typhoid "H" antigen together with cautious use of cycloplegics locally. In the chronic congestive type of glaucoma it may be more severe but usually responds to fever and cycloplegic therapy. If severe, intraocular tension will be elevated again, necessitating another cyclodialysis or another type of glaucoma operation.

4. Hypotony is unusual in cyclodialysis. Intraocular tension rarely becomes lower than 14 mm. Hg., as measured by Schiötz's tonometer.

Late complications: Cataract is a complication which all surgeons must expect. Cataracts.

frequently follow glaucoma surgery. It occurs most rapidly if hypotony results from the decompression operation. The initial manifestation usually is a change in the refractive error, due probably to increased density in the lens nucleus. A hyperopic patient will become less so or myopic, and a myopic patient more myopic. Visual acuity may be maintained with proper lens correction. However, when opacities appear, visual acuity will gradually diminish.

Discussion: It is generally accepted by most ophthalmic surgeons at present that Heine's original concept of the mechanism of action of cyclodialysis is correct. The establishment and maintenance of communication between the anterior chamber and the suprachoroid is the mechanical *sine qua non* in the successful action of the operation in most, if not all, cases. To establish and maintain this communication, we believe the following factors are important:

1. The dialysis must be extensive. We prefer to separate one half of the circumference of the ciliary body from its scleral attachment. If the dialysis is too small, there is danger of reattachment of the ciliary body to the scleral spur.

2. Trauma during operation must be kept to a minimum. It creates raw surfaces and stimulates healing of these surfaces through exudation. Thus the sweeping of the spatula over the ciliary body or iris in both the Heine and Blaskovics technics favors irritation of these structures with subsequent postoperative iritis or iridocyclitis. These result in formation of adhesions with obliteration of the cyclodialysis cleft. Furthermore, damage to the posterior surface of the cornea through injudicious manipulation of the spatula in the anterior chamber may result in anterior peripheral synechia, which counteracts the very object of the operation, as well as in the formation of deep corneal scars.

We know that the ciliary body is in loose apposition with the sclera except at its point of attachment to the scleral spur. A potential space exists between the two through which only a few strands of nonvascular lamellas of connective tissue traverse. In performing a cyclodialysis, it is not necessary to sweep the spatula over the surface of the ciliary body nor over the iris. The action of the spatula should be confined to the immediate region of the attachment of the scleral spur. Any additional maneuver over the suprachoroidal space or in the anterior chamber would only be traumatizing and result in undesirable side effects.

3. Hemorrhage into the anterior chamber is the most frequent complication in cyclodialysis. If severe, it will endanger the success of the

operation. Recently several authors have advocated injection of air into the anterior chamber, either before or after the completion of the cyclodialysis, to prevent hemorrhage. We believe, however, that this procedure is usually unnecessary if proper precaution is taken. A large vessel in the chamber angle, although uncommon, should be avoided if seen by gonioscopy. The site of incision in the sclera should be rendered avascular with the use of a hot point. The incision is made about 2 to 4 mm. from the limbus, and the maneuver of the spatula should be confined to the region of the scleral spur. This usually will prevent injury to the anterior ciliary vessels which lie approximately 3 to 5 mm. from the limbus in the region of the tendon insertions of the recti muscles. Should hemorrhage occur after these precautions are taken, it is venous in origin and usually stops in a few seconds. The blood is readily removed through the suction effect obtained by the placing of a cotton sponge at the proximal end of the grooved spatula.

4. Postoperative iritis, like hemorrhage, if pronounced may result in failure of the operation through formation of synechiae and obliteration of the supraciliary cleft. Usually it can be avoided by proper selection of cases. Glaucoma secondary to an active uveitis constitutes an unfavorable case.

Conclusions: It is our belief that the cyclodialysis operation should be more widely used. Excellent results can be obtained in cases of compensated chronic primary glaucoma. Satisfactory results are also obtained with selected cases of chronic noncompensated glaucoma. Complications can be reduced to a minimum by careful preparation and the use of proper technic.

Discussion

J. Kenneth von Lackum, Cedar Rapids: Glaucoma is probably the number one headache of the ophthalmologist. Therefore any advance toward better surgical care of these patients is greatly appreciated. Dr. Lee has given us a very adequate essay on the cyclodialysis operation, its indications and surgical technic as developed at the University together with a plea for its greater usage. I fully agree with the doctor's presentation.

It is a good operation because of its safety, its relatively simple technic; it lends itself well to repetition, leaves a good cosmetic eye and has few complications. To use this operation successfully, however, we must avoid factors which are generally recognized as causes of failure.

First, the choice of operation is important.

1. It is most useful in aphakic eyes.
2. Avoid cases with an extremely shallow angle.
3. Avoid cases with an extremely high tension.

4. Avoid cases of extensive anterior peripheral synechiae.

5. It is evident that the science of gonioscopy helps considerably in the selection of cases.

Secondly, the complication to be feared most is hemorrhage into the anterior chamber.

1. Absolute control of hemorrhage at the scleral wound with cautery if necessary must be achieved.

2. Keep scleral incision within 4 mm. of limbus.

3. Avoid large angle vessels.

4. Make slanting corneal incision before cyclodialysis, through which air may be injected into anterior chamber; this usually controls bleeding.

Thirdly, include no less than one-third to one-half the circumference of the iris and use the upper one-half if possible to keep blood from the filtration area.

Fourth, postoperative care is important.

1. Use gentle daily massage, to be delayed if bothered with bleeding.

2. Dilate the pupil periodically every two or three days for at least three to four weeks.

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CYTOPATHOLOGY*

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Recently a speaker at a national medical meeting commented, "We are recommending a four to six months' training course for pathologists who wish to undertake this [the cytologic] method of diagnosis." Similar suggestions have appeared from time to time in the writings of others interested in the field of cytopathologic diagnosis. The implication is that cytopathology is an entirely new field, and that competence in histopathologic methods mysteriously disqualifies one for accurate observation of cytologic minutia. This charge is warranted only because many pathologists have displayed merely reluctant interest, if any, in the work, but the charge is largely without basis.

Actually, the field of cytologic diagnosis in routine clinical pathologic work is not a new one. Pathologists are accustomed to examine blood and bone marrow smears, cytologic preparations *par excellence*. Again, many have been interested for years in the study of certain fluids, particularly ascitic and pleural fluids, for evidence of cancer.

The pathologist has, then, been serving his clinicians in the field of cytologic pathology for many years, and the problem is simply one of expansion of his knowledge, interest and effort. It is true that a few have never become and never will become good cytologists, for instance, those who have willfully neglected such older fields of cytologic work as the study of the blood and bone marrow. On the other hand, the pathologist who has given you competent interpretations of blood and bone marrow preparations should be especially capable of expanding his abilities in the realm of the study of other bodily fluids.

You will recall that a momentous early treatise on pathology, published in 1858 by Rudolf Virchow, was entitled "Die Cellular Pathologie." However, through succeeding years many gave more attention, in the microscopic study of neoplasms, to grosser features such as invasiveness than to fine cellular characteristics. During recent years there has been great debate about carcinoma *in situ*, a condition in which all of the characteristics of cancer are present except invasiveness. The morphologists have maintained that if a lesion shows no tendency to invade adjacent tissue it is not a cancer, while those who give attention to cytologic detail assert that cancer must exist in a preinvasive stage. The latter, now in the majority, stress in their work the importance of the recognition of cancer in its preinvasive stage.

Today we find a growing interest in cytopathology, an interest which stems from consideration of the possibility of earlier diagnosis of cancer offered by the study of bodily fluids and secretions.

However, the attempt to find malignant cells when no tissue structure at all is present, as in vaginal smears, does pose a difficult problem for the microscopist. It is a problem which may be approached most practicably by those who already have backgrounds of long years of training and experience in many phases of oncology, notably pathologists. May I, therefore, assure you that a large majority of pathologists are capable of giving you measurable aid in the diagnosis of cancer by virtue of study of various bodily fluids and secretions.

*Read before the medical staff of the Iowa Methodist Hospital, Des Moines, Iowa, June 13, 1949.

Consequently, I propose to discuss two approaches to diagnosis in the field of cytopathology, namely, cancer detection by use of screening technics and cancer diagnosis by individual case study. I will try to show you that close cooperation of clinician and pathologist is the only practicable approach to cytopathologic diagnosis.

The Screening Method of Cancer Detection

The purpose of screening is to diagnose cancer in apparently healthy people complaining of no symptoms of cancer. It has been advocated that vaginal smears be taken at six month intervals among large groups of women, perhaps all women over 35 in a doctor's practice, in a community or throughout a whole state. Certainly a few uterine cancers can be picked up in early stages when this is done. How many cases will reach advanced stages due to complacency when false negative reports are given remains uncertain on the basis of present experience. We must remember that taking a vaginal smear is not a good substitute for doing a pelvic examination.

If such screening procedures were to be attempted in this community, or even in your own individual practices, you would, however, immediately encounter the obstacle of lack of skilled personnel to interpret the smears you would make. How many pathologists do you think that the community would need in order that careful studies of such large numbers of vaginal smears might be made?

Granting that the field of cytopathology presents no obstacles insurmountable to the ordinary clinical pathologist, his principal limitation remains that of lack of time to devote to tedious cytologic surveys. He has many other duties besides microscopy. Already, he perhaps largely approaches the limit of use of his vision in the study of histologic preparations of various sorts. His limitation for microscopic work will probably vary from three to six hours daily. An extreme minimum of time he may spend in studying each preparation is perhaps 15 minutes.

Admittedly, it is possible to train technicians to sort smears, eliminating negative ones and presenting to the pathologist only the suspicious ones. But would you care to have your cervical biopsies handled in this manner? Would you be quite so able to depend upon the pathologist's report if he should have a technician go over all of his biopsies, bringing to him for examination only those that she thought he might be interested in seeing?

Screening methods are tremendously beyond the scope of present endeavors and must await future evaluation.

Selection of Cases for Cytologic Study

On the other hand, I am sure that the pathologists in this community and elsewhere are capable of accepting new demands for their services if clinicians will submit to them preparations taken from well selected cases with some definite, plausible objective in mind in each instance.

Suppose that you have a patient who has no symptoms at all referable to the female genital tract? However, upon examination you observe an area of erosion of the cervix. You are quite certain that this is a simple inflammatory process, yet you are vaguely apprehensive that it might possibly be an early carcinoma. In this instance is a vaginal smear indicated? No! If you take a smear you are attempting to apply in an individual case the screening technic principle. Screening technics are intended to cover large numbers of people and to give valuable over-all results. Screening technics are not accurate enough to give you the best answers that you can offer to individual patients. If you are really concerned about the patient in question, you will do a cervical biopsy. If she refuses this procedure, then you may be justified in resorting to a vaginal or cervical smear study as a poor substitute.

Again, suppose that a woman of 58 has a persistent vaginal discharge, strongly suggesting the possibility of the presence of a uterine cancer. You make a vaginal smear, and the pathologist reports it negative for tumor cells. You cannot accept the negative report with complacency. Too many false negative results are obtained by this technic. On the other hand, if he reports the result of his study as positive, you must still confirm his diagnosis and localize the lesion. Therefore, the vaginal smear study has been useless, for you are obliged to resort to a standard procedure in order to confirm the pathologist's report and to localize the lesion. You might as well have done a curettage in the first place.

However, suppose that you have a patient with ascites. You suspect malignancy, but your studies are not conclusive. You do not desire to submit the patient to exploration. In this instance, if the pathologist can demonstrate cancer cells or tissue in the ascitic fluid sediment, the diagnosis is established and you may proceed with conservative management of the case. On the other hand, his negative report in such a case is of little value.

Much more important, suppose that a 63 year old man has symptoms suggestive of pulmonary neoplasm. If he is too sick to submit to bronchoscopy, sputum studies may give diagnostic information. However, if bronchoscopy can be

carried out, it would seem unnecessary to examine the sputum. The bronchoscopist may be able to obtain a biopsy, the best approach to diagnosis. If he cannot obtain a biopsy, washings of the suspected bronchi may yield cancer cells or cancer tissue for study by the pathologist. As a matter of fact, bronchial washings may be positive when biopsy is negative.

It seems apparent that vaginal smear studies are of limited value. Where one can make, as in the female genital tract, a direct approach to diagnosis, indirect technics are not very worthwhile. Admittedly, there are occasional exceptions to this statement.

On the other hand, in many other situations, notably the respiratory tract, the cytologic technic is often the only approach to diagnosis and therefore is exceedingly valuable.

May I re-emphasize that, if clinicians and pathologists will approach the matter of cytologic studies in a rational manner, using good clinical judgment as a basis for selection of material for study, the cytologic technics may be utilized in an extremely useful way.

The Pitfalls of Cytologic Diagnosis

Admittedly tedious, the study of various bodily fluids for the presence of exfoliated cancer cells and tissue fragments is also difficult for an obvious reason which must be always kept in mind.

Cells showing all of the features ordinarily considered to be characteristic of malignant neoplastic cells are sometimes found in inflammations and other conditions characterized by cellular hyperplasia. Extremely variable malignant-appearing cells are the syntrophoblastic cells of the placenta. It is common to find in pleural effusions large cells with large nuclei, occasionally arranged as pseudo-acini; these cells sometimes closely simulate carcinoma cells. Cells desquamated in squamous epithelial metaplasia, a benign process, may simulate epidermoid carcinoma cells.

In many preparations the microscopist finds that he must base his interpretation entirely upon morphologic characteristics of cells. His work becomes much easier when tissue fragments, such as cancer acini, are present. When only individual abnormal cells are available for inspection, such features as nuclear hyperchromatism, anisonucleosis and increase in nuclear-cytoplasmic ratios are the only criteria upon which one can depend.

The pathologist must, therefore, be conservative in his interpretations of cytologic preparations. He must constantly bear in mind that he knows only the morphologic characteristics of the

cells he is studying. He cannot know, by looking at cells, whether or not they have the capacities of malignant neoplastic cells to invade tissues and to metastasize.

As Warner,¹ at a recent University Hospital Clinicopathologic Conference, so aptly stated, "It has been observed by many individuals that malignant cells in general tend to have certain morphologic abnormalities as compared to nonmalignant cells, particularly in the nucleus. They tend to have abnormally large and abnormally hyperchromatic nuclei and abnormally large nucleoli. Such changes are more prevalent, in general, in malignant cells than they are in hyperplastic cells. But, it has been well demonstrated, also, by meticulous statistical measurements of nucleocytoplasmic and of nucleolonucleus ratios that those findings in malignant cells and in hyperplastic cells overlap. Mesothelial cells, as found in the pleural cavity, are notoriously in the group where the overlap is generous.

"Some have even gone so far as to actually measure the diameters both ways, to get both the long axis and the short axis, and then have applied the mathematical formula for the volume of an ellipse to compute the ratio of the nucleus to the nucleolus. They came out with the same answer—that the overlap between hyperplastic and neoplastic cells is very extensive."

Therefore the conservative microscopist will render to you many negative reports in instances of malignant neoplasia. He will not tell you, however, that he has observed cancer cells unless he is morally certain of it.

Methods

One may follow any standard method of obtaining vaginal fluid. The simplest method is one suggested by Kraushaar² of Iowa City, who employs a swab and sheath technic instead of the glass aspirator with bulb used by Papanicolaou. Smears are made quickly, placed in alcohol-ether, and stained, using Papanicolaou's method. However, it has been my experience that smear preparations of many other bodily fluids are not always satisfactory. We³ have found it worthwhile to use another type of preparation. It is simply one of developing some sort of coagulum to give a fluid body, so that it may be fixed, embedded in paraffin, sectioned and stained along with the other specimens that are processed daily in the laboratory.

We try to exercise our ingenuity in handling each particular specimen. Some specimens are thin and watery; others are coagulated; still others are rich in mucin. We handle each preparation submitted to us as an individual problem. At

times—when, for example, the bronchoscopist submits a small amount of washings—we will use only the tissue section technic. With vaginal fluid we usually employ only smears.

Frequently we use two methods and have been surprised on occasion to find that a tissue section is preferable to a smear prepared from the same specimen. Some time ago we were studying a pleural fluid. We made smears and saw some smudges of cells of undiagnosable appearance. On the other hand, to the sediment obtained by centrifugation we added a small amount of powdered fibrinogen and thrombin. A coagulum formed which contained the cellular elements present in the fluid. This coagulum was fixed in formalin, embedded and sectioned along with our routine surgical specimens for the day. We obtained beautiful histologic preparations of cancer acini.

We are able to section sputum, which, if tenacious, may be coagulated in picric acid⁴ and then handled as a tissue. Prostatic secretions may be studied for cancer cells. There has been slight success in the study of gastric washings. Urine may be studied, but occasional false positive reports have been given at several good medical centers.

Summary

In summary, may I emphasize that it is possible to study, for the presence of neoplastic cells and tissue fragments, nearly all of the bodily secretions and fluids. Technics of preparation of these materials vary between different laboratories and with the types of fluids studied. Satisfactory cytologic preparations may be obtained by a number of methods, but only a competent, interested individual, usually a pathologist, is capable of making correct interpretations.

There will be many false negative results. There will be a small percentage of false positive results, probably for many years to come, even in the hands of the most expert. The danger to the patient from a false positive report may be minimized by the exercise of good clinical judgment.

It is extremely important that cases for cytologic study be selected carefully in order that the pathologist may have the opportunity and time to give careful attention to the most important and diagnostically profitable cases.

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PROPHYLACTIC INJECTION OF COROMINE (NIKETHAMIDE) INTO THE CORD VEINS OF NEWBORNS

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While the search continues for a perfect drug for analgesia and amnesia of obstetric pain, it is generally granted that as yet the goal is not approximated. Though infant deaths due directly and solely to maternal analgesic drugs are probably rare, even minor degrees of hypoxia over short periods may contribute to a death due primarily to some other cause. A baby exhausted by long or traumatic labor may lack sufficient vigor to fully expand his lungs during the early few minutes of life. In this event there may be periodic cyanosis followed by either gradual improvement or death from atelectasis alone or in combination with birth trauma which in itself might not have been fatal.

Since it is difficult to evaluate immediately the vigor or the degree of narcosis of a newborn baby, and since the route of easy intravenous stimulant administration is patent for only a brief period, the procedure of routine intracordal administration of nikethamide was established for trial in my practice on Jan. 1, 1948. Prior to that time this route had been used occasionally for administration of nikethamide where quite heavy narcosis of the mother or difficult delivery had put us on guard against possible fetal exhaustion. This same route had also been used for administration of 25 cc. of 10 per cent glucose in babies of diabetic mothers and had been found practical.

The dosage of nikethamide at first was varied between $\frac{1}{2}$ cc. to $1\frac{1}{2}$ cc. of 25 per cent solution. After a short time, when untoward reactions were not encountered, the dosage of $1\frac{1}{2}$ cc. became standard. Convulsions have not occurred either at the time of administration or later in the neonatal period.

During the year of 1948, 220 deliveries occurred in my practice. Three infants did not receive nikethamide. These cases were a still-born infant known to be still prior to onset of labor, an anencephalous monster who died at or immediately before birth, and a premature infant with an extreme degree of hydropic type erythroblastosis who died 40 minutes after birth.

One infant, following an exceptionally difficult labor and mid-forceps delivery, was dead at birth, though fetal heart sounds had been heard dis-

tinctly 10 minutes previously. The cord was pulseless, and no response occurred after giving nikethamide and oxygen. The mother, a primipara, weighed 200 pounds, was 5 feet tall, and had normal clinical and x-ray pelvimetry. The 8 pound 8 ounce baby had a R.O.P. presentation.

Routine sedation orders consisted of demerol 100 mg. I.V. when pains became disagreeable. Thereafter 50 mg. of demerol was given p.r.n. without time limit. Frequently scopolamine 0.3 mg. was added to the second dose of demerol and repeated p.r.n. as often as every two hours. Occasionally 90 to 270 mg. of seconal was administered if the patient seemed wide awake or well oriented during labor.

The average total dosage of demerol for primiparas was 217 mg. in 7.13 hours of labor and for multiparas was 144 mg. in 3.34 hours of labor. No consideration was given to the time of expected delivery in relation to the dosage of medication. Actually, the major portion of the sedatives were used during the late first stage of labor.

Drip ether anesthesia was given in all cases. All primiparas were delivered by episiotomy and low forceps. The ether anesthesia was carried to a surgical level before delivery. Multiparas were usually anesthetized only lightly with ether except where occasionally outlet forceps and episiotomy were indicated or where spontaneous delivery was impeded by an abnormal presentation.

Omitting the four previously mentioned cases, there were 216 live and superficially normal babies born who received nikethamide in the cord vein immediately at birth. The results are uniformly striking. There is first an abrupt tensing of the entire body with the extrusion of saliva, blood and mucus from the nose and throat. At this moment an "ear" bulb is used in aspirating the nose and mouth. The baby then takes several deep inhalations, interspersed with sneezing and coughing. After a moment vigorous crying starts and usually continues from one to three hours. With four exceptions, abstracted below, these babies have continued to do well and gain well. Among the 212 surviving babies were several that at birth were variously flaccid, cyanotic or shocked. These babies, judging from past experience, would have given further cause for worry if not actual trouble. Periods of cyanosis were not observed in these babies. All babies have been followed at regular intervals after discharge from the hospital, and there is nothing to suggest that their development has not been average or above.

Abstracts

Mrs. M.N., aged 29, a gravida IV, after normal labor, delivered a 7 pound 13 ounce male child. The baby was persistently cyanotic in spite of oxygen, vigorous respiration and crying. There were no bowel movements. He died 48 hours after delivery. Autopsy showed a normally situated but abnormally small pulmonary aorta with a large ductus and large interauricular septal defect. There was also stenosis of the left half of the transverse colon and the descending colon. Left hydro-ureter was noted.

Mrs. G.H., aged 20, a primigravida, had normal pelvimetry. Delivery was accomplished by difficult mid-forceps after 26 hours difficult labor. The 8 pound 1 ounce male had a firm longitudinal suture line and a small fontanel. The baby was in shock and pale shortly after birth and presented left-sided twitching. The spinal fluid was clear, and blood was not obtained on subdural fontanel puncture. Death occurred after 48 hours. Autopsy showed large right temporoparietal epidural hemorrhage with cerebral compression. A mild and probably clinical insignificant stenosis of the aorta was also found just beyond the branching of the left subclavian artery.

Mrs. E.R., aged 28, was a gravida III. Central placenta previa with hemorrhage was treated by rupture of the membranes and transfusions. Labor was rapid with breech delivery of 3 pound 8 ounce male. The baby was in shock at birth but responded well temporarily to nikethamide and oxygen. He died after four hours, however. Autopsy was not performed.

Mrs. A.Mc., aged 21, primigravida, had premature rapid labor with no known predisposing cause. One-half cc. nikethamide was given to the 2 pound 4 ounce male infant with little response. Respiratory effort was poor throughout life, and the child died 12 hours after delivery. Autopsy was not done.

Summary and Conclusions

The results of routine injection of nikethamide into the cord vein of newborns in 216 cases have been reported.

This procedure has proven satisfactory in avoiding apnea, somnolence, and cyanosis in the newborn.

The procedure is not presented as a substitute for other care. Minimizing of obstetric trauma, clearing of the airway and the use of oxygen are recognized as essential.

STRUMA OVARIII

A Report of One Case

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An ovarian tumor composed almost entirely of thyroid tissue is known as a struma of the ovary. While isolated and fragmentary islands of thyroid tissue occur in 12 per cent of teratomas of the ovary, only about 150 true ovarian strumas are recorded in the literature.

Thyroid tissue in an ovarian tumor was first described by Bland-Sutton¹ in 1893. Gottschalk² in 1899 reported a similar tumor under the diagnosis of "folliculoma malignum ovarii." Pick,³ however, is generally credited as the first to recognize the true thyroid nature of the tumor in 1902. In the same report a tumor of the ovary was described as an "endothelioma" by Kretschmar,⁴ who recognized its thyroid nature but interpreted it as metastatic.

In 1905 Robert Meyer⁵ determined the iodine content of dried ovarian strumas to be 0.014 mg. per gm. More recently Plaut⁶ presented 3 cases in detail, with determinations of the iodine content of the tumors, and concluded that ovarian strumas are "morphologically, chemically, pharmacologically and biologically true thyroid tissue." Most examinations for iodine reported in the literature, however, do not reveal its presence in the tumors.

The incidence of malignancy in these growths is low, with metastases in less than 10 per cent of the reported cases. Only about 5 per cent have exhibited clinical evidence of hyperthyroidism relieved by removal of the tumor. Instances of the latter have been reported by Kovacs,⁷ Kleine,⁸ Moench,⁹ Morgan,¹⁰ Aschkanasy,¹¹ Cantor and Kogut,¹² Neumann,¹³ and Emge.¹⁴ However, as Emge¹⁴ has pointed out, many of the growths have been removed because of acute abdominal symptoms, as in the patient to be reported in this paper, and most such patients have come to operation without critical metabolic studies. As a consequence, milder types of hyperthyroidism are undoubtedly overlooked. Indeed, most cases are silent until mechanical complications arise. The majority of these tumors, therefore, come to the attention of the surgeon because of the presence of a mass, pressure symptoms referable to adjacent viscera, or acute abdominal symptoms due to torsion of the pedicle. Ascites has accompanied many of the reported cases (Meig's syndrome) but is itself not an indication of malignancy.

Case Report

A 40 year old Mexican woman was admitted to the Creighton Memorial-St. Joseph's Hospital June 7, 1946, because of severe pain in the right lower abdomen, persisting for three days. For 10 years she had been aware of a mass in the same region, but it occasioned only intermittent, brief attacks of discomfort.

For many years she had had attacks of dysnea, worse at night and without cough or sputum. Her digestion and bowel habits had always been normal. There had been 13 pregnancies, uneventful except for swelling of her feet, and the last terminated three months prior to admission. For some time, however, her menses had been irregular, with a menstrual flow only every two months. She had no other complaints referable to the genito-urinary system. The history of her past life and previous illnesses bore no relation to the current illness.

Physical examination revealed a well developed, obese Mexican female in no particular distress. The eyes, ears, nose and throat were essentially normal. The chest was symmetric and well developed, while the breasts were pendulous. The heart and lungs were apparently normal. The anterior abdominal wall was markedly relaxed, and there was palpable mass in the right lower quadrant, 10 cm. in diameter. This zone was quite tender, but there was no associated rigidity. On pelvic examination the cervix was edematous,



Fig. 1. Gross photograph of ovarian tumor mass. The cut surface shows many large cystic areas.

patulous and exuded a thick mucopus. The uterus was normal in size and shape but was retrodisplaced. The large mass palpated abdominally was found to occupy the right tubo-ovarian region and was apparently discreté from the uterus and other pelvic viscera.

The urine on the day of admission had 10 to 12 white and 6 to 8 red blood cells per high

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power microscopic field. The red blood cell count was 4,260,000, with 85 per cent hemoglobin. The white blood cell count was 5,100, with 6 per cent eosinophiles, 38 lymphocytes, and 56 neutrophiles, of which 2 were staff cells and 54 segmented. Serologic tests for syphilis were negative. The blood sugar was 103 mg. per cent and the cholesterol 138 mg. per cent.

Subsequent Course: At operation on June 18, 1946, the pelvic mass was found to be a tumor involving the right ovary which had twisted on its pedicle and was associated with edema and swelling of the adjacent adnexa. A right salpingo-oophorectomy was done. The postoperative course was uneventful.

Pathology: The gray-pink cystic tubo-ovarian mass measured 15 by 10 by 6 cm. (See figure 1.)

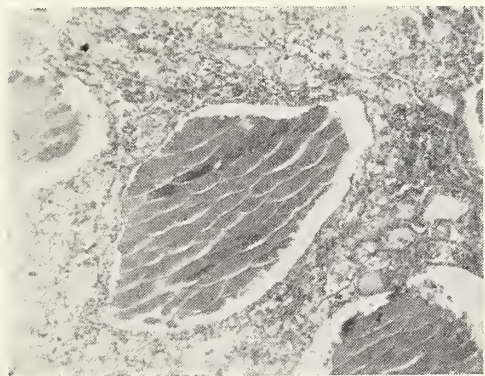


Fig. 2. Photomicrograph of ovary by 180. A large acinus filled with colloid is seen, and surrounding it are numbers of small follicles. Red blood cells are scattered throughout.

Surfaces made by cutting were studded with thin-walled, smoothly lined cysts up to 3 cm. in diameter and containing a straw-colored or blood-tinged fluid. Microscopically (See figure 2) a uniform pattern of microfollicular type of thyroid tissue was seen. Here and there well developed colloid was present within the acini, but in other areas the acini were filled with blood. There was considerable fibrous tissue separating the lobules, and there were small deposits of calcium. No ovarian tissue could be identified in many sections. The entire tumor was surrounded by a thick fibrous capsule.

The iodine content of the tumor was not determined. In the accompanying Fallopian tube there was minimal mononuclear cell infiltration, especially in the serosa.

The final pathologic diagnosis was struma ovarii, microfollicular type; chronic salpingitis, right.

Summary: True struma ovarii is relatively infrequent, and only about 150 instances are in the

literature. A single case with uneventful recovery following surgical removal is reported.

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College of Medicine State University of Iowa CLINICOPATHOLOGIC CONFERENCE December 7, 1949

Summary of Clinical Record

A 78 year old man was admitted to University Hospitals on July 20, 1949. The patient was unable to give a satisfactory history, and the information available was provided by the referring physician. Ten days prior to admission a debridement had been performed on a chronic leg ulcer. Other treatment consisted of various home remedies applied by the patient's wife. The patient remained ambulatory and symptom-free until July 19, 1949, when he noted pain on movement of his neck. The following morning (day of admission) his neck was extremely stiff, swallowing was difficult, and he could neither open his mouth completely nor enunciate well. His sensorium was clear and he had no convulsions. There was no other history of trauma. Past medical and social history were unobtainable.

Physical examination revealed a well developed, well nourished white male appearing critically ill. There was moderate cyanosis, and his position in bed was one of opisthotonus. His sensorium was clear. The temperature was 99.8

F. (rectal); the pulse rate, 112 beats per minute; the respiratory rate, 32. The pupils were pinpoint, with impaired light and accommodation reaction. The fundi were obscured by bilateral cataracts. The extra-ocular movements were grossly intact. The facies were symmetrical with a risus sardonicus. Trismus prevented examination of the mouth. The neck was fixed in hyperextension. The trachea was midline. Respirations were rapid, shallow and diaphragmatic; the thoracic cage was fixed by muscular spasm. Auscultation and percussion revealed moist basilar rales and diminished intensity of breath sounds throughout. There was no enlargement or overactivity of the heart; the heart tones were of good quality. The blood pressure measured 180/120. There was moderate spasm of the abdominal musculature and severe spasm of the paravertebral muscles. Neurologic examination was otherwise negative. On the anterior surface of the distal third of the right leg was an infected, but fairly clean, varicose-like ulcer measuring 5 by 7 cm. No other evidence of trauma was found.

Laboratory examination revealed: hemoglobin, 14.5 gm. per 100 ml.; erythrocytes, 5.58 million per cu. mm.; leukocytes, 20,100. Urinalysis was negative. Spinal fluid examination revealed the fluid to be clear with a trace of globulin (Pandy), 7 lymphocytes per cu. mm., normal chemical findings and no elevation of pressure. Spinal fluid culture produced no growth. Culture of the ulcer revealed *Clostridium perfringens* (welchii), hemolytic *Staphylococcus aureus* and nonhemolytic *Streptococcus*.

The patient was placed in shock position to effect postural drainage; nasal oxygen and endotracheal intubation were utilized. Tetanus antitoxin 20,000 units was injected around the ulcer, and 60,000 units were given intravenously in 800 cc. of normal saline. This was followed by 5,000 units of tetanus antitoxin daily. Hydrogen peroxide dressings were applied to the ulcer. No debridement was performed. Sedation was accomplished with 60 mg. sodium phenobarbital intramuscularly as indicated. On July 21 the endotracheal tube was removed to facilitate natural drainage. At this time inequality of the pupils (2 cm./3 cm.) was noted. Aspiration of the nasal and oral pharynx was done as indicated, and the tetany precipitated by this procedure was controlled with sodium amytal intravenously. Adequate urinary output was maintained with intravenous fluids. On July 23 a portable x-ray film of the chest revealed segmental atelectasis on the right. On July 24 aspiration bronchoscopy was carried out because of increasing respiratory distress and physical signs of atelectasis in the

right base. Tenacious white mucoid material was aspirated from the middle and lower lobes on the right, with some relief of symptoms; however, the pulse remained rapid and the respirations became more labored. Frequent examination of the lungs revealed no change in aeration. Digitalization was instituted because of the development of auricular fibrillation. In the ensuing six hours the course was rapidly downhill, with loss of consciousness and increase of muscle spasm. The cough reflex disappeared. At 0720 hours, July 25, respirations ceased. Efforts at resuscitation, including positive pressure oxygen, failed and at 0725 hours heart tones could no longer be heard.

Dr. W. H. Ames (Internal Medicine): There was a failure to mention the fact in the protocol that the patient was placed on 300,000 units of penicillin intramuscularly every three hours.

The case presented today is that of a 78 year old man who was admitted to the department of medicine on July 20, 1949, with the history of having a debridement of an old leg ulcer 10 days previously. The subsequent treatment had consisted of various poultices applied by the patient's wife. The next untoward event occurred on the day prior to admission when the patient noted a painful neck, and on the day of admission the patient noted extreme stiffness of the neck, difficulty in swallowing, that the jaw muscles were stiff and speaking was difficult. There was no history of convulsions, recognized fever or impairment in sensorium. Also, there had not been any nausea, vomiting or diarrhea. A severe trismus prevented and hindered communication, so a history was difficult to obtain. The important physical findings were as follows: The position of the patient in bed was one of opisthotonus; the neck was 4 plus stiff; and there was spasm of all the musculature. Attempts at speaking produced the picture of risus sardonicus. The skin was warm and moist, and the mucous membranes were cyanotic. The respirations were rapid, shallow and diaphragmatic in nature. On the distal surface of the lower right leg was an old ulcer, somewhat shallow, measuring 4.5 by 5 cm., which appeared to be infected. The right leg was noted to be no more spastic than was the left. Bacteriologic reports on the spinal fluid were normal. Only one culture was taken from the wound itself; this was obtained from the superficial aspects of the wound, and the report was that of *Clostridium welchii*, a non-hemolytic *Streptococcus* and a hemolytic *Staphylococcus aureus*.

Usually the cases of this type that are seen in the wards present no great problem of differential

diagnosis; however, it might be wise to mention a few conditions that might be considered in such a case. Among these would be, of course, meningitis, particularly a chronic type such as influenza, tuberculosis or yeast meningitis, or occasionally an acute fulminant meningococcus will give some difficulty. Tetany due to hypocalcemia and alkalosis should also be considered as should strychnine poisoning, rabies and occasionally cases of botulism. Other things which have been confused with tetanus are impacted wisdom teeth, peritonsillar abscesses, cellulitis of the neck and fractured jaws. Of course these may be the site of entrance of organisms into the wound, and you may have tetanus superimposed upon it. The majority of these can be excluded on the basis that, although they do have a convulsive episode, there is no protracted period of muscular spasm. This is particularly true in tetany, rabies and strychnine poisoning. Meningitis can be excluded on the basis of a spinal fluid examination plus the short abrupt onset of the patient's symptoms. Of course the lesions involving the neck and head, such as wisdom teeth, peritonsillar abscesses, etc., would probably be excluded on the basis of the physical findings at the time.

We agreed with the students that the clinical diagnosis on admission was tetanus, and the treatment as outlined in the protocol was instituted. The principal difficulty in the control of this patient was maintenance of an adequate respiratory exchange. It was noted in the protocol that on the day following admission he developed a period of acute respiratory distress which was managed by aspiration through an endotracheal catheter. At this time a tracheotomy was seriously considered both as a means to facilitate aspiration and also of preventing the anoxia which occurred with his periods of muscular spasm. It was felt by some that, since he did have an adequate airway, the spasms could be controlled adequately with barbiturates and a tracheotomy was not necessary. Accordingly, the patient was placed in semi-Trendelenburg position, and aspirations were carried out as necessary. On the fourth day an episode of acute distress occurred, at which time there was a climbing respiratory and pulse rate. The patient was cyanotic, and there were minimal signs of atelectasis in the right lower lobe. The patient was bronchoscoped, and a moderate amount of thick tenacious material was removed at that time. The patient's color improved; however, there was no decrease in his respiratory rate or pulse rate and the physical findings remained unchanged. Later on in the day the pulse and respiratory rate continued to rise; the patient

became cyanotic, and at that time it was noted that he was fibrillating. It was thought by the examiner that congestive failure was being superimposed upon a probable atelectasis and, accordingly, digitalization was started, without apparent improvement. There was a decrease in muscular spasm; cyanosis increased; pulse and respiratory rate continued to climb; and at 0720 hours on the

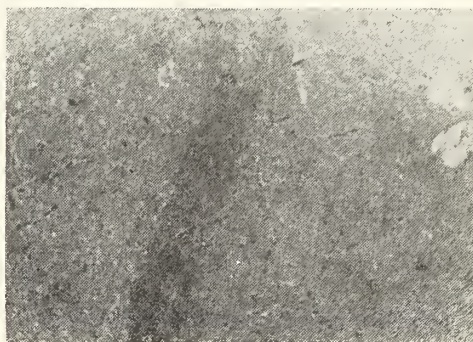


Fig. 1. Spinal Cord.

fifth day of admission respiration ceased. Attempts at resuscitation, including positive pressure oxygen, were made. However, five minutes after cessation of respiration heart tones could no longer be heard.

Some interesting work was done in 1938 by Abel and his co-workers in an attempt to localize the action of tetanus. He was in disagreement with the so-called unitary theory, which states that the action of the toxin is strictly on the central nervous system, and with the rather widely accepted theory that the toxin enters the neuromuscular junction and then spreads to the neuron itself to involve the central nervous system. To prove this, Abel and his workers injected into one set of dogs the toxin from a strain of tetanus in the amounts of $1/8000$ of a minimal lethal dose into each of 40 different spots in the hind limb of these dogs. A local muscle spasm was produced which was confined to the extremity injected; there was no evidence of central nervous system manifestations in these dogs, and the animals invariably improved and recovered without any treatment whatsoever or despite whatever treatment might be instituted. Then he took another set of dogs and injected as little as $1/400$ of a minimal lethal dose in the anterior horn cells of the spinal cord. These dogs all developed the convulsive-like spasms but did not show the local muscle spasm that was seen in the first set of animals, and, interestingly enough, none of the dogs recovered despite any of the treatment instituted. It was Abel's contention then that the action of the toxin was both at the neuromuscular junction and the central nervous

system, and that the spread was probably by the circulatory system.

As is generally recognized, the prognosis is more severe where the central nervous system manifestations have occurred, though not necessarily always fatal. We gave a large amount of antitoxin to this patient because, although debridement had been accomplished, it was presumed that the toxin was still present because the organism was, of course, and the toxin was still being manufactured. Because the time from onset of entry of the organism to the development of his convulsive-like state was 9 to 10 days, it was felt on admission that his prognosis was extremely poor, and that all of our efforts would have to be directed mainly towards keeping an adequate airway and controlling the muscular spasm. The final diagnosis at the time of death was tetanus, possible congestive failure and probable atelectasis of the right lower lobe.

Dr. J. M. Layton (Pathology): There's one thing that puzzles me a little. The clinical course is that of tetanus. Two of the organisms commonly found in tetanus, *Clostridium tetani* and a hemolytic *Streptococcus*, were not cultured from the local wound at any time. He developed tetanus without the tetanus bacillus being cultured. There has been some work to show that the host reaction to *Clostridium tetani* depends in part on lowering the oxidation-reduction potential

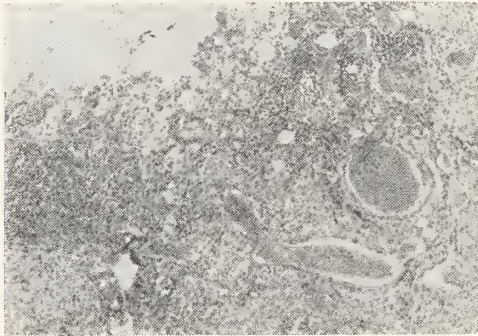


Fig. 2. Ulcer of Leg.

of tissue to a level which will permit the germination of tetanus spores. The hemolytic *Streptococcus* and perhaps the spreading factor which it elaborates may be concerned in this mechanism. I can't quite correlate here the organism and the clinical course.

Dr. Tidrick (Surgery): This wound cultured a *Staphylococcus aureus*, a nonhemolytic *Streptococcus* and *Clostridium welchii*. That was a surface swab, of course, and it might not give us a clear indication of all the organisms present, and I don't believe any aerobic cultures were obtained on the material.

Clinical Diagnosis

Tetanus.

Necropsy Diagnosis

The significant findings relative to tetanus in this case were in the central nervous system, specifically the spinal cord. Scattered throughout the cord, especially in the gray matter and particularly in the cervical and lumbar areas, were numerous foci of hemorrhage, $\frac{1}{2}$ to 3 mm. in diameter. Mild degenerative changes in the anterior horn cells were observed in some areas. The peripheral nerves were not remarkable. A 4 by 8 cm. varicose ulcer, presumably the source of infection, was present in the pretibial area of the right lower leg.

A contributing factor in the patient's death was a massive collapse of the entire left lung and lower lobe of the right lung, resulting from bronchial obstruction by plugs of mucopurulent material. The remainder of the right lung revealed moderate congestion.

Necropsy diagnoses:

Varicose ulcer, right leg.

Tetanus.

Massive collapse, left lung.

Collapse, lower lobe, right lung.

Epigastric hernia.

Accessory ureter, right.

Diverticulosis, sigmoid colon.

Hyperplasia of prostate gland.

Generalized arteriosclerosis.

Dr. J. R. Carter (Pathology): The paucity of lesions at autopsy in cases of tetanus is rather characteristic of the disease and this case was no exception. The most significant changes were found in the spinal cord and consisted essentially of petechiae and small hemorrhages, particularly in the cervical and lumbar swelling of the cord. There was a 4 by 8 cm. ulcer in the pretibial area of the right leg, and the entire left lung was completely collapsed. The lower lobe of the right lung was collapsed. At the time of autopsy the bronchi and bronchioles to the left lung and to the lower lobe of the right lung were almost completely filled with mucopurulent material. There were a few petechiae in the mucosa of the stomach and the large and small bowels. The most significant findings in this case were confined to the central nervous system, particularly in the spinal cord. The remainder of the brain appeared normal; no hemorrhages or evidences of inflammation were found.

Dr. Tidrick: Dr. Clark, does this matter of hemorrhage in the cord, at least gross hemorrhage, commonly accompany tetanus?

Dr. E. C. Clark (Neurology): It apparently

is seen not infrequently, and there is some work out by Baker in which he states his belief that most of the changes are periarterial and may in part account for the increased hemorrhage in some instances.

Dr. Carter: Do you mean that the hemorrhages were periarterial?

Dr. Clark: The nerve cells are very periarterial.

Dr. Tidrick: How many cases of tetanus have we had to come to autopsy?

Dr. Ames: In the last 10 years there have been 12 cases come to autopsy. Of those 12 cases, in

so-called local tetanus on the surgical service in the last few years. Both of them happened to be associated with burns. One of them, particularly, was of interest because one extremity became stiff quite a while before there were any other manifestations. This process was of some days duration before it was recognized. The latent period there was presumably long. At least, he had had the injury for several weeks before he developed the disease. Sometimes we have raised the question whether or not it is modified by an inadequate covering dosage of tetanus antitoxin at the time of the injury. Now I think we have some questions here that come up in this connection. Dr. McKee, we raised the old question about the culture of these lesions. I would also like you to say yes or no as to whether you agree with comments about the antitoxin treatment.

Dr. A. P. McKee (Bacteriology): The fact that we were able to culture the *Clostridium perfringens* from the wound would lead us to believe that, one, the medium we used was capable of growing aerobes. Now, as to having anything to do with pinning down *Clostridium tetani* in this wound, I don't think that it necessarily settles anything. It's pretty well known that *Clostridium tetani* organisms are not particularly plentiful in most wounds in which tetanus follows. Secondly, unless one takes the most adequate specimen, preferably a piece of tissue, the odds are a bit against you in being able to isolate this organism because they are few in the first place. And, even though you use the best technic, the best of specimens, I'm sure once in awhile you will still miss some of these because the organisms are not too prevalent.

A few comments might be made here in regard to the effect of reopening or stirring up a wound from which, apparently, no tetanus toxin has as yet emanated. That, of course, is a not too uncommon situation. The experimental work that has been done would lead us to believe that almost anything that increases the necrosis of the tissue in that area and therefore lowers the oxygen potential may allow these organisms to germinate. There's a critical point in which they do germinate. The ordinary prophylactic dose of antitoxin could be held in question where there is considerable secondary infection. Now, in addition to this, some experimental work leads us to believe that anything that interferes with the blood supply could also cause tetanus organisms to germinate. Small amounts of tetanus toxin, even small amounts of a prophylactic dose, have on occasion increased the incubation period considerably. It leads one to raise the question

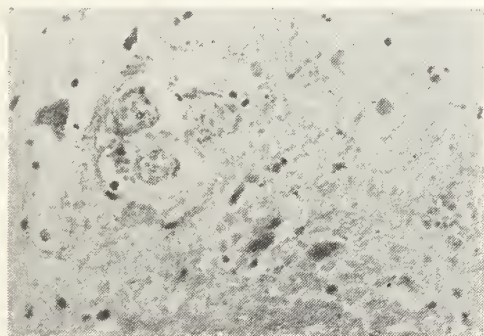


Fig. 3. Spinal Cord.

only 4 was the organism recovered, and in 4 the fact that a culture had been taken was not noted in the chart. Of the remaining 4, which were negative cultures, 2 contained *Clostridium welchii* as the only *Clostridium* seen.

Dr. Tidrick: There may be some other neurologic aspects which you might like to discuss, Dr. Clark.

Dr. Clark: As mentioned by Dr. Ames there are two primary sites where the toxin acts. One is on the myoneural junction, which it may reach either by spreading through the extracellular fluid from the wound itself to the immediate adjacent muscles or by way of the blood stream or lymphatics or possibly by way of the nerve trunk. In acting on the myoneural junction the acetylcholine mechanism is in some way interfered with, and the individual muscle goes into spasm. The anterior horn cells synapse and also the motor nuclei appeared to be involved much as in strychnine poisoning. The threshold, so-called, is lowered and any light, sound or touch stimulus applied to the patient will cause him to go into violent spasms, which are sometimes termed convulsions.

Dr. Tidrick:, I think Dr. Clark's comments, in part, explain the difference in mechanism between so-called local tetanus and the ordinary convulsive variety. We have seen a couple of instances of

whether or not it wouldn't be a good idea in following the administration of tetanus antitoxin for prophylactic reasons to follow through with active artificial immunization on top of that to take care of subsequent difficulties. Of course, even that takes considerable time, so a second injection of antitoxin might be indicated before the artificial active immunization became effective.

Dr. Tidrick: There are a number of questions that were brought up in relation to treatment. I understand from the position of the neutral bystander that there was a little debate as to whether or not a tracheotomy should have been done.

Dr. L. E. Morris (Anesthesia): Cases of tetanus seem to show such considerable variation, particularly in severity, that because of that and further widespread of prophylaxis full blown cases are relatively rare, and one's individual opportunity for extensive observation is then necessarily limited. Therefore a really valid estimate of various forms of therapy is difficult. One thing that seems to me to be almost self-evident is the need for continuous observation of these patients, due to the fact that the course of disease may be abruptly changed. The severe rigidity and the muscular spasms must be controlled. Sustained spasm means cessation of respiratory exchange, and even artificial ventilation often cannot be satisfactorily accomplished under such circumstances. The patients then die of asphyxia.

To provide relaxation, a wide variety of agents have been used, none of which is entirely satisfactory and all of which have disadvantages. Favorite agents in the past have included barbiturates, chloral hydrate, avertin and some of the curare compounds. Both chloral hydrates and barbiturates are good sedatives for the control of the restlessness, but neither is effective in controlling the muscular rigidity or the spasm of even the moderately severe tetanus. In addition, respiratory depression and decreased ventilation accompanies their use. Curare was, curiously enough, first used as a therapeutic agent for tetanus in desperate cases about 80 years ago, and it's only been in recent years that renewed interest in the use of curare for this purpose has come about. Unfortunately, the dose required for full muscular relaxation approximates what we might call full curarization. Maintenance of adequate ventilation then becomes a problem. No curare-like compound works any better or appears to be any better than curare itself. Avertin seems to be fairly effective in controlling the rigidity and spasm of the muscle in tetanus. In the reported cases with which I am familiar death from tetanic spasm has not been as frequent in patients who have been treated with avertin as it

has been in patients who have received sedation by other drugs. A recent report from New Orleans seems to indicate that the judicious use of a combination of avertin and intravenous procaine provides satisfactory sedation and muscular relaxation without excessive respiratory depression.

Deaths from tetanus are usually respiratory deaths. We could categorize them in one of three ways: (1) They may be the result of sustained tetanic spasm, which we just mentioned; or (2) they may be due to respiratory obstruction either of the upper or lower respiratory passages (Glottic spasm can occur as readily as spasm of the leg or back); or (3) they may be due to secretions of the lower respiratory tree, which by their presence obstruct normal exchange. Death may also be due to aspiration of pharyngeal contents, either pharyngeal secretion or regurgitation from the esophagus or gastrointestinal tract. To open the matter for discussion, as Dr. Tidrick has suggested, it is my belief that early tracheotomy would eliminate much of the hazard from upper respiratory obstruction and reduce the possibility of obstruction from secretions in the lower respiratory tree as well as facilitate the removal of those secretions once they are present.

Dr. W. C. Huffman (Otolaryngology): I have often wondered if there were a great deal of advantage in having a tracheotomy in a patient only for purposes of aspiration, because you are still doing blind aspiration with a tracheotomy tube in place. I can't see a great deal more advantage in aspirating through a tracheotomy tube than through an indwelling laryngeal tube or probably even aspirating through the larynx blindly without the presence of an indwelling tube through the larynx. The blind aspiration either through a tracheotomy tube or through a larynx still leaves one aspirating, not knowing where he may do so. So, for purposes of aspiration, I've often wondered if a tracheotomy is a thing that is as greatly indicated as many of us have led ourselves to believe.

Dr. Carter: How the toxin actually gains access to the central nervous system, whether by the blood stream or by the axis cylinders in the neurons or peripheral nerves, is more than just an academic question. It has been raised many times with regard to the experimental work with dogs in view of their natural immunity and, so far as I know, no one has actually disproved that the toxin goes up the axis cylinder. Perhaps both processes might occur.

Dr. Tidrick: I certainly wish we could get a plug in somewhere for the more routine use of

tetanus toxoid. I dare say, excluding those in this room who have been compelled by way of military service, there are a high percentage of the others who have not had tetanus toxoid administration. We constantly see that in the so-called enlightened segment of the public, and that only goes more so in the others. Dr. Barnes, do you have any solution to this, other than mass compulsion?

Dr. M. E. Barnes (Director of Public Health): I don't have any solution. I'm not a great believer in compulsion at all. When it comes to that, I think persuasion by public health education is the only way you'd get anywhere. But what we are advocating here is to include tetanus with the other immunizations of children. I think that should be routine with all children, and eventually we may hope to get the public, at least a considerable number of them, to get the benefit of this in childhood.

Dr. E. L. DeGowin (Internal Medicine): I'd like to ask the surgeons to give us some perspective about the complications of the chronic ulcer. Is it rare? Could it be regarded as an accident such as being hit by a car? Could something be done about it routinely?

Dr. Tidrick: No, it isn't rare; we've had tetanus occur after the most bizarre things. I saw tetanus occur once after an exploration for adrenal tumor. There it was blamed on catgut. I saw it once following a dilatation and curettage or some other relatively minor gynecologic procedure, and it was fatal. I've seen it two or three times associated with chronic wounds. We have seen other innocuous wounds associated with it. One had an insignificant insect bite, and yet it was the only portal of infection that could be demonstrated. Now, in relation to the question of whether or not the local site considered to be the source of infection should be irradiated by debridement or excision, there are differences of opinion. For the ones which can be readily excised without further complicating an already serious illness, I think most surgeons feel that they should be excised. One thing, these can run on and on. I grant you that that's in the face of the evidence that the damage is already done as far as the circulating toxin, but in some of the instances in which a considerable state of chronicity has developed I think that is probably good treatment. And then there is the other practical matter and, that is, these infections are almost always mixed, sometimes associated with several organisms, and that infection will need to be cleared too.

Dr. DeGowin: Would you advocate the ad-

ministration of tetanus antitoxin for all surgical operations?

Dr. Tidrick: Almost without exception we do give it to all patients who have burns, and we give it to people who have old compound fractures before we reoperate, as for a bone graft or operation upon sites that have been known to have had aerobic organisms or ones associated with foreign bodies. Such wounds may be associated with tetanus when the wound is reopened. For many years we have been giving either a booster shot of toxoid or tetanus antitoxin before reoperation.

Dr. Barnes: I'd like to ask in those cases, not emergency ones, why wouldn't it be a wise thing to give active immunization, starting in enough time to build them up to active immunization before you tackle it?

Dr. Tidrick: Well, I think that's logical. That came up last year in relation to a boy from pediatrics with a gunshot wound in the leg.

Resident (Pediatrics): That boy had two shots of 1,500 units tetanus antitoxin a month apart. It was two months after the second shot before he developed active tetanus. What do you consider the average prophylactic dose?

Dr. Tidrick: Well, I remember that boy altered some of our current opinions on it. There have been people who have advocated double the usual prophylactic dose for a long time who claimed the ordinary 1,500 units was not enough. This case that he mentioned is one point here that has illustrated it.

Dr. Barnes: I didn't mean to use antitoxin; I meant to start at the beginning and build up the immunity.

Dr. Tidrick: We did on that boy, Dr. Barnes. We gave him toxoid later because he was going to have to have secondary plastic procedure to his leg.

Dr. R. Meyers (Neurosurgery): I think we should be reminded that there is a phenomenon known to surgeons as *idiopathic tetanus*. Personally, I don't subscribe to the concept of idiopathic; however, it has been emphasized by some writers that 5 per cent of the male population at large carry tetanus bacilli in their mouth, and that among rural people approximately 20 per cent of them carry tetanus bacilli. This constitutes a potential source of self-infection, which may explain some idiopathic cases. Biting the cheeks or gums, injuring the mouth, undergoing dental surgery, etc., may bring on the picture of head tetanus. The latter is a rapidly developing affair, the incubation period being from two or

(Continued on page 136)

STATE DEPARTMENT OF HEALTH

Walter L. Biering

PROVISIONAL SUMMARY OF POLIOMYELITIS CASES IN IOWA FOR 1949

This provisional listing of cases of poliomyelitis by counties for 1949 is purposely being presented at this time, as part of a combined effort between the State Department of Health and the Iowa State Office of the National Foundation for Infantile Paralysis, to obtain as nearly as possible an accurate listing of all cases in all 99 counties in Iowa.

The cases listed have been obtained from physicians' reports, hospital reports and case investigations made by our public health nurses. Occasionally, a patient with a given post office will actually reside in another county. In other instances the physician may fail to give the address of his patient who may live in another county. Again, there may have been a change in diagnosis which has not been received. We try to correct these errors and others too, but if our listing for your own county is not correct, will you kindly inform us?

POLIOMYELITIS IN IOWA 1936-1949

Year	Cases	Deaths
1936	76	13
1937	241	40
1938	40	10
1939	197	30
1940	927	64
1941	41	5
1942	72	3
1943	204	15
1944	204	16
1945	320	25
1946	620	53
1947	176	8
1948	1,236	81
1949	1,217	91*

*Provisional.

POLIOMYELITIS BY AGE—1949

Iowa and Illinois Iowa* (1,217 cases)		
Age Group	Total	Per Cent
0-1 Yr.	33	2.7
1-4 "	260	21.4
5-9 "	319	26.2
10-14 "	172	14.1
15-19 "	109	9.0
20-24 "	115	9.4
25-29 "	85	7.0
Over 30 "	107	8.8
30-34 "	—	—
35 & over	—	—
Not stated	17	1.4
	1,217	100.00

*Age range of cases in Iowa 1 month to 73 years old.

Illinois (2,376 cases)		
Age Group	Total	Per Cent
0-1 Yr.	74	3.1
1-4 "	532	22.4
5-9 "	637	26.8
10-14 "	398	16.8
15-19 "	222	9.3
20-24 "	172	7.2
25-29 "	148	6.2
Over 30 "	—	—
30-34 "	84	3.5
35 & over	75	3.2
Not stated	34	1.5
	2,376	100.00

IOWA COUNTIES WITH NUMBER OF CASES REPORTED 1946-1949

(Provisional figures for 1949)				
County	1949	1948	1947	1946
Adair	6	3	1	2
Adams	3	2	—	3
Allamakee	5	2	1	5
Audubon	21	6	—	—
Appanoose	7	2	1	1
Benton	17	4	—	2
Black Hawk	57	15	2	14
Boone	9	16	1	4
Bremer	7	13	1	13
Buchanan	2	4	—	3
Buena Vista	9	17	—	10
Butler	8	2	—	8
Calhoun	22	9	3	2
Carroll	2	10	—	1
Cass	5	20	—	2
Cedar	8	1	—	4
Cerro Gordo	19	51	—	10
Cherokee	8	17	3	3
Chickasaw	7	3	—	4
Clarke	4	2	—	—
Clay	7	10	4	10
Clayton	14	1	2	5
Clinton	29	16	6	13
Crawford	3	27	—	3
Dallas	10	8	3	1
Davis	2	1	—	—
Decatur	2	15	—	1
Delaware	10	1	1	4
Des Moines	24	5	—	4
Dickinson	2	3	1	6
Dubuque	90	5	4	5
Emmet	5	27	—	6
Fayette	1	15	2	1
Floyd	8	3	6	3
Franklin	26	24	—	2
Fremont	1	11	3	4
Greene	10	1	—	—
Grundy	2	—	—	4
Guthrie	31	6	1	3
Hamilton	8	6	1	2
Hancock	8	2	—	3
Hardin	26	3	1	3
Harrison	10	87	—	—
Henry	4	2	—	4
Howard	7	3	—	3
Humboldt	15	3	3	1
Ida	2	16	3	1
Iowa	8	—	1	—
Jackson	8	—	1	2
Jasper	10	11	—	10
Jefferson	0	4	1	1
Johnson	19	5	4	8
Jones	3	1	8	3
Keokuk	1	1	—	5
Kossuth	22	10	1	13
Lee	13	6	2	3
Linn	26	11	8	4
Louisa	1	3	—	5
Lucas	6	2	—	4
Lyon	7	12	1	7

Madison	6	4	—	6
Mahaska	7	1	—	—
Marion	3	7	2	1
Marshall	8	3	—	9
Mills	5	30	—	1
Mitchell	8	3	—	2
Monona	5	14	—	4
Monroe	7	1	—	2
Montgomery	1	8	—	7
Muscatine	3	12	3	3
O'Brien	7	21	1	16
Osceola	10	18	1	2
Page	10	17	4	16
Palo Alto	15	5	1	4
Plymouth	11	13	2	7
Pocahontas	12	6	1	3
Polk	120	108	24	104
Pottawattamie	27	82	4	5
Poweshiek	13	3	1	4
Ringgold	3	6	—	—
Sac	17	22	—	5
Scott	10	40	2	16
Shelby	11	30	—	3
Sioux	10	34	1	21
Story	28	26	4	16
Tama	4	7	3	19
Taylor	7	5	2	4
Union	4	3	2	10
Van Buren	1	5	—	—
Wapello	7	2	5	1
Warren	7	9	1	7
Washington	4	3	—	1
Wayne	11	4	—	3
Webster	25	24	1	3
Winnebago	10	5	—	3
Winneshek	12	13	—	5
Woodbury	30	46	22	53
Worth	19	6	1	2
Wright	12	20	5	5
Totals	1217	1236	176	620

BIRTH WEIGHT

The distribution of live births occurring in Iowa during the first 11 months of 1949 according to sex and weight at the time of birth is given in the following table:

Weight	Total Number	Per Cent	Male	Per Cent	Female	Per Cent
½ lb. or less.....	1	0.0	....	....	1	0.0
Over ½ to 1½ lbs.	78	0.1	39	0.1	39	0.1
Over 1½ to 2½ lbs.	175	0.3	93	0.3	82	0.3
Over 2½ to 3½ lbs.	315	0.6	151	0.5	164	0.6
Over 3½ to 4½ lbs.	689	1.2	364	1.3	325	1.2
Over 4½ to 5½ lbs.	2,139	3.8	994	3.4	1,145	4.2
Over 5½ to 6½ lbs.	7,891	14.0	3,366	11.6	4,525	16.7
Over 6½ to 7½ lbs.	18,383	32.7	8,719	30.0	9,664	35.6
Over 7½ to 8½ lbs.	17,275	30.7	9,362	32.2	7,913	29.1
Over 8½ to 9½ lbs.	7,272	12.9	4,575	15.8	2,697	9.9
Over 9½ to 10½ lbs.	1,653	2.9	1,125	3.9	528	1.9
Over 10½ to 11½ lbs.	290	0.5	213	0.7	77	0.3
Over 11½ to 12½ lbs.	38	0.1	27	0.1	11	0.0
Over 12½ to 13½ lbs.	6	0.0	5	0.0	1	0.0
Total (not including not stated)	56,205	100.0	29,033	100.0	27,172	100.0
Weight not stated	766		397		369	
Total	56,971		29,430		27,541	

It can be observed from the above table that 63.4% of all infants born alive weighed between 6½ and 8½ pounds when born. The average birth weight was 7.4 pounds. The average for male infants was 7.5 pounds, while the average for female infants was 7.2 pounds.

A birth weight of 5½ pounds or less is frequently considered a criterion for determining immaturity or prematurity. It is among this group of infants that specialized care is often deemed advisable. It will be observed that 3,397 or 6 per cent of the births indicated in the table above fall within this category.

Another point worth noting is the fact that 96 per cent of all live births occurring in Iowa during the period under consideration were in hospitals or nursing homes. In other words, only 4 out of every 100 births were home deliveries.

WHY INCREASE YOUR CHANCES OF DYING BY BEING OVERWEIGHT?

Overeating is the main cause of overweight. We Americans establish our eating habits during our active years and later forget that desk work, for example, does not require the same high caloric intake of food that our more active years demanded. Unless we reduce the amount of our food in accordance with our reduced physical activity the result must be overweight.

Here are some of our increased chances of dying from some of the common diseases if we are overweight:

	Under-weight	Normal	Over-weight
Heart disease, cerebral hemorrhage, nephritis, diseases of the arteries.....	77%	100%	162%
Accidents	92%	100%	112%
Diabetes	64%	100%	257%

Let us restate the facts in the data in another way: Of five fat men 30 years old, three live to be 60 and only one to be 70. Of five men not exceeding normal weight at 30 years of age, four live to be 60 and three pass the 70 year mark.

As a nation we are approaching our three score and ten years for expectancy of life. Of the 48 states only Vermont (10 per cent) exceeds Iowa (9.9 per cent) in the per cent of population that has attained an age of 65 years or over. A baby born in 1950 in the United States has an even chance of living to be 65 years old. He can increase this 50 per cent chance greatly if after the age of 30 he stays out of the overweight group.

MORBIDITY REPORT

Diseases	Jan. '50	Dec. '49	Jan. '49	Most Cases Reported From These Counties:
Diphtheria	2	11	4	Linn (2)
Scarlet Fever	50	81	190	Dubuque, Polk, Story
Typhoid Fever	2	3	0	Des Moines, Linn
Smallpox	0	0	0	
Measles	656	478	57	Allamakee, Linn, Polk
Whooping Cough ..	36	27	17	Des Moines, Polk, Sac
Brucellosis	15	12	16	Scattered
Chickenpox	318	352	689	Black Hawk, Dubuque, Linn
Influenza	1	80	0	Boone
Meng. Meningitis ..	5	2	6	Jefferson (2), Johnson, Keokuk, Lucas (1 each)
Mumps	248	240	413	Black Hawk, Story, Woodbury
Pneumonia	8	6	11	Polk, Sioux
Poliomyelitis	12	48	9	Black Hawk (2), Lee (2), Polk (2), others scattered
Rabies in Animals..	14	17	13	Polk (2), others scattered
Tuberculosis	56	53	50	For the State
Gonorrhea	50	49	59	" " "
Syphilis	181	173	179	" " "

The JOURNAL of the **Iowa State Medical Society**

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Vol. XL MARCH, 1950 No. 3

Grievance Committee One Step Nearer

The House of Delegates at its special session January 15 instructed the president to appoint a committee to formulate rules and regulations for a Grievance Committee for the State Society, these to be presented at the regular meeting of the House in April. This committee has been appointed and has held its first meeting, at which time it worked out a definite plan for the functioning of the Grievance Committee. The first draft is now being checked with the Iowa Code and our own Constitution and By-Laws and should be ready for presentation within a few days.

The importance of this Grievance Committee cannot be overestimated. Already the announcement that such a committee is contemplated has brought favorable reaction from several important organizations. Other states having such committees report they have been invaluable in effecting better relations with the public.

Many of the complaints lodged with the committee deal with excessive fees, although some mention inadequate consideration by a physician. In most of the states, however, excessive fees are the predominant cause for complaint, and they are one sure peg upon which the government can hang its case for the need for a government health insurance plan. It is futile to tell a man who has been grossly overcharged that the government plan will cost him more and give him poorer service. His response can and should be highly skeptical.

It is true that excessive fees are the exception rather than the rule. It is also true, and we must repeat it again and again, that one such instance can do more harm to the cause of medicine than one hundred instances of good care at reasonable cost. The few who violate the principles of medical ethics in this respect do irreparable damage to the honest efforts of the other members of the profession.

We cannot help but hope the formation of a Grievance Committee will have a salutary effect upon such offenders. The rank and file of the physicians of this country are not in sympathy with overcharging; the great majority of them do not err in this regard. The number who do is small, being estimated at only 1 or 2 per cent, but the effect is the same as that of one rotten apple in a barrel.

The practice of medicine calls for high ideals and high standards of conduct. The history of its followers throughout the centuries testifies eloquently to the achievement of such standards. Possessing such a proud heritage, let us all examine ourselves searchingly and be sure we are so conducting ourselves as to bring continued good will to the profession.

Easter Seal Campaign

The period from March 9 through April 9 signalizes the 1950 Easter Seal Campaign sponsored by the Iowa Society for Crippled Children and Adults. This organization depends mainly upon the sale of Easter Seals to carry out its program. The many services obtainable to the handicapped include the Cerebral Palsy Center, the Grinnell Speech Center, the Spastic Club, the Iowa Rehabilitation Center, work projects for the home-bound handicapped and necessary direct care services.

With the expansion of these various services this society is faced with mounting expenses. At no time has the need for increased financial support been more urgent than at present. The physicians of Iowa can greatly promote this program both by financial contributions and by assisting the various county units in the promulgation and sales of Easter Seals.



Help your central office to maintain an accurate mailing list. Send your change of address promptly to the Journal, 505 Bankers Trust Bldg., Des Moines 9, Iowa.

1950 Red Cross Fund Campaign

This month, as every March, the American Red Cross goes to the people of this country for support of its program through the fund campaign. The response of the



people is voluntary. It is the American way that each individual decides the extent of his contribution to his fellow man. Year after year the response is never failing, and the Red Cross is thus enabled to

continue its important activities in blood banks, safety, service to veterans and the armed forces and their families, nursing, disaster, international activities and other services. To the extent that America supports the Red Cross and similar voluntary service agencies, to that extent also is it exhibited that we can carry out these community responsibilities without compulsion.

Treatment of Carcinoma of the Descending Colon

The local resection of the primary growth and regional lymph nodes with immediate anastomosis is replacing exteriorization operations for the management of lesions in the descending colon. The procedure has been fairly well standardized by surgeons. Many variations in the popular ways to sterilize the colon contents prior to surgery have appeared. The increasingly satisfactory immediate surgical results have often been attributed to chemotherapy or to antibiotics. Such anastomosis may be performed by so-called closed or open technic. Contamination is one of degree by either method. A safe primary anastomosis requires an adequate blood supply of the entire circumference of the cut ends of the bowel, no tension on the suture line and an adequate lumen of the anastomosis. When an obstruction is present or there are inflammatory changes in the bowel, the procedure is less safe. It is conceded that some type of exteriorization remains the procedure of choice for the surgeon not experienced in technics for end-to-end anastomosis. However, the exteriorization methods also require that the same basic conditions be present for a safe operation.

Single stage combined abdominoperineal resection is the standard method of treatment of lesions situated 10 cm. or less above the dentate margin. For lesions at a higher level the preserving of fecal continence can usually be accomplished by an anterior resection. The mortality for Miles's operation is 6 per cent and for the anterior resection, 4 per cent. Local recurrences occur in

about 10 per cent for both procedures. The higher mortality for the abdominoperineal resection may be partly explained on the selection of patients. Here the lesion is usually farther advanced. It appears that there are indications for several procedures.

U. S. Armed Forces Medical Journal

With the January 1950 issue the *U. S. Armed Forces Medical Journal* made its initial appearance. This medical journal is the joint monthly publication of the medical departments of the army, navy and air force, replacing the *Bulletin of the U. S. Army Medical Department* published since 1922 and the *U. S. Naval Medical Bulletin* published since 1907.

In welcoming the new journal it is anticipated that the reports of the accomplishments in military medicine will continue to contribute to the health and welfare of the personnel of the armed forces and of the nation.

Air Transportation of Patients

According to a report by The Air Surgeon, Military Air Transport Service, all surface means of patient transportation of personnel of the armed forces, including hospital ships and hospital trains, have been removed from service.*

A recent study revealed that 21 times more medical personnel are required for the transportation of patients on surface vessels than for the same number transported by air. It is only in rare instances where the services of a medical officer are required for air transportation of a patient. Conveyance via transport aircraft allows great advantages in speed flexibility and frequency. MATS C-54 air evacuation aircraft travel, which is approximately 10 times faster than a hospital ship, requires only 34 patients instead of 300 to make up a full load and may be directed in any direction over land or water. Trip frequency is greatly increased, eliminating the need for large holding facilities and long delays in getting patients to definitive treatment centers. The ability to move patients rapidly, comfortably and safely from all points of the world to highly qualified specialists concentrated in relatively few medical centers will make their services available to the greatest number. This will eliminate much of the necessity for having large groups stationed in distant outposts. Medical research undoubtedly will be stimulated and promoted since both clinical material and qualified specialists will be available at medical centers.

(Continued on next page)

*Hall, W. F.; and Nolan, J. D.: Advantages of Air Transportation of Patients. *U. S. Armed Forces M. J.*, 1:115 (January) 1950.

During World War I aircraft were used to a very minor extent for the evacuation of casualties. The tremendous growth of air transportation of patients during World War II is indicated by the total number of patients transported annually: 1943—173,527; 1944—545,004; 1945—624,128; 1946—13,959; 1947—18,000; 1948—18,078. Although the number of patients sharply dropped upon cessation of hostilities, these figures represent an appreciable percentage of the total number of patients transported.

With air transportation of patients as a primary means in time of peace and war our state of medical preparedness for war will be closely allied with our state of air preparedness and the availability of medical department personnel.

COLLEGE OF MEDICINE CLINICOPATHOLOGIC CONFERENCE

(Continued from page 131)

three to five days. Although in general we prefer to follow the law of parsimony and ascribe all signs and symptoms to one pathogenetic mechanism, I don't believe the book is closed in this case. We lack proof that this subject's tetanus came from his leg ulcer. Hence we must entertain the possibility that the tetanus may have arisen from some other source than the obvious lesion of the leg.

Dr. Layton: Clostridium tetani produces its effects by the toxins which it produces, whereas in tuberculosis, for example, the proliferations of the organisms bring about some of the injurious effects. We may then confine much of our attention to preventing the formation of or to neutralizing the toxins, which is proper. Then there is this other point that Dr. McKee has mentioned relative to the presence of secondary infection in the wound before the spores germinate and produce the toxin. If you dispose of the necrotic tissue or the Streptococcus or whatever it is that is producing the secondary infection, you may keep the spores from germinating and producing the disease. A good many people have prevented clinical tetanus by penicillin administration.

Dr. Tidrick: Yes, I know. Penicillin was used here. In answer to your question, I should say that our efforts have been largely for the reasons that Dr. Layton described, and, that is, to get rid of the focus of infection generally.

HOUSING

Any physician desiring housing during the Centennial Meeting should write Dr. Robert D. Rowley, Medical Arts Building, Burlington, at once. Dr. Rowley will endeavor to procure rooms for everyone, but it is essential he know as far in advance as possible how many will be needed.



Governor William S. Beardsley became the 500,000th Iowan to enroll in Iowa's voluntary health and hospitalization plan of Blue Cross-Blue Shield when he became a member with a group of statehouse employees this week. At the governor's left is Miss Mary L. McCord, executive secretary of the Iowa State Medical Society, the first person to enroll when Blue Cross was organized in Iowa 10 years ago. Standing behind the governor is Fredric P. G. Lattner, Blue Cross executive director.

GOVERNOR BEARDSLEY BECOMES ONE-HALF MILLIONTH MEMBER OF BLUE CROSS

Governor William S. Beardsley became the 500,000th person to enroll in the Blue Cross Plan with headquarters in Des Moines when he became a member with a group of state house employees this week. This means one person out of four is covered by this nonprofit hospital prepayment plan in the Des Moines area which serves 73 counties in Iowa and Rock Island County, Ill. The 26 counties in the northwest part of the state are serviced by the Blue Cross Plan with offices in Sioux City. Over 100,000 are enrolled in this Blue Cross Plan.

These great strides in enrollment have been made possible through the cooperation and participation of the member hospitals, members of the Iowa State Medical Society, newspapers, radio stations and community leaders. Good hospital services and facilities are most gratifying, but giving patients a way to easily budget for these benefits when needed is also a real community service.

Enrollment in the Blue Cross Plans continue to sweep the country. Rhode Island leads in percentage of its population enrolled with 72 per cent as of September 30, 1949, and Delaware next with 60 per cent.

Iowa being a rural state does not have as concentrated a population, but it does have other very definite advantages. With a good educational program in the broad coverage of this plan, Iowa can move up very fast in the next few years and give evidence of its belief in helping people to help themselves.

The Governor also joined the local Blue Shield Plan, our state doctors' own contribution to this self-help concept, which is only five years old and already has 175,000 members.

NEWS NOTES

from the

Committee on Medical Service and Public Relations

Report of the Fifth National Conference on Rural Health

The Annual Conference on Rural Health was held in Kansas City, Mo., February 3 and 4, following a meeting on Thursday, February 2, of state chairmen, which was primarily for physicians and leaders in this type of work.

The theme of the meeting was: "Let's Do Something About It." The entire three day program was divided under five general headings: (1) rural medical facilities at the local level, (2) relation of Agricultural Extension Service to rural health problems, (3) community responsibility for health service in rural areas, (4) methods of prepayment for health services in rural areas, (5) the responsibility of the medical schools in the rural health program. Some excellent papers were given by both doctors and lay people regarding these topics.

The Hill-Burton bill was discussed and, generally, was favorably accepted. Community effort was stressed, particularly from the standpoint of the following things: (1) the problem of getting and keeping physicians in rural communities, (2) the problem of furnishing adequate medical facilities in the way of clinics, health centers and community hospitals, (3) the problem of stimulating community interest in health problems through some type of local health councils.

At present there are 17 health experts working with the Agricultural Extension Service, whose job is to stimulate local interest in health problems and furnish advice for carrying them out.

Various types of prepaid plans were discussed both commercial ones and those sponsored by physicians and state medical societies. It seemed to be the consensus of opinion that compulsory health insurance was not the answer to prepaid medical care.

There was considerable discussion in selected groups regarding undergraduate and postgraduate training of physicians with the hope that a fair number would locate in rural areas. From the tone of the conversation there appears to me to be a definite swing from specialties back toward well trained general practitioners. I think this is good and as it should be.

Approximately 400 persons were registered at the meeting, of which better than 75 per cent were lay people. I have attended this conference annually since 1946 and my impression is that the program is beginning to crystalize, and that some constructive programs are gradually being worked out which should definitely improve rural health conditions.

C. A. Nicoll, M.D., Chairman
Committee on General Practice

College of Medicine Committee on General Practice Residencies

The Committee on General Practice for the Iowa State Medical Society met with the Committee on General Practice Residencies of the College of Medicine of the State University of Iowa on January 22 at 10:00 a. m. in the faculty room of the College of Medicine. This meeting was called by Dr. Bean, and the directors of the Iowa division of the American Academy of General Practice were invited to attend. Drs. C. V. Hamilton, D. G. Sattler, A. A. Woods and C. A. Nicoll were present from the Committee on General Practice.

The tentative program of general practice residencies was presented by Dr. R. T. Tidrick and then discussed. The Committee on General Practice Residencies is somewhat concerned concerning the actual need for general practitioners in the state. The number has been estimated from as low as 30 to as high as 300. The training of men for general practice with reference to residencies in the University Hospital and smaller community hospitals was discussed. The matter of preceptor training was touched upon from many angles. It apparently has not worked well in Wisconsin. The program in Kansas will be watched with interest. A high percentage of undergraduates in their last two years in school spend some time with doctors during vacations. For this reason a required preceptorship appeared to be unnecessary to the Committee on General Practice Residencies. The exact amount of training which a doctor needs to do good general practice seems to vary considerably. It is many times hard to draw the line between procedures

(Continued on next page)

that the general practitioner does which might more properly and more efficiently be handled by a man with specialty training. It was more or less agreed we cannot produce young doctors with the judgment and knowledge that comes from years of experience. Each individual must adapt himself to different situations, and each must be cognizant of his abilities and limitations.

The Committee on General Practice Residencies appears to be making an honest effort to do something about training men for general practice. If the plan which will be instituted July 1, 1950, for six residencies works out well, more will be added in the future.

C. A. Nicoll, M.D.
Chairman, Committee on General Practice

State University of Iowa COLLEGE OF MEDICINE Conference in Urology for the General Practitioner

Thursday, March 30—Room E-331, University Hospitals
No Registration Fee

Department Staff

RUBIN H. FLOCKS, M.D., Professor and Head of Department of Urology
NATHANIEL G. ALCOCK, M.D., Professor
RAYMOND G. BUNGE, M.D., Associate Professor

Guest Lecturers

ROBERT L. JACKSON, M.D., Associate Professor of Pediatrics
JOHN H. RANDALL, M.D., Professor of Obstetrics and Gynecology
WILLIAM C. KEETTEL, M.D., Associate Professor of Obstetrics and Gynecology
W. O. NELSON M.D., Professor of Anatomy

Program

- 9:00 Roundtable Discussion—Significance of Hematuria and Pyuria
UROLOGY STAFF
- 11:00 Roundtable and Case Presentation—Pediatric Urology
DR. R. L. JACKSON and UROLOGY STAFF
- 12:30 Lunch. May be obtained at the Doctors' Dining Room. Tickets may be purchased at the Hospital Cashier's window in the main entrance to the Hospital.
- 1:30 Carcinoma of the Prostate: Case Presentation and Discussion
DR. N. G. ALCOCK
- 2:30 Demonstration of Office Urological Procedures
UROLOGY STAFF
- 3:30 Roundtable Discussion—The Problem of Sterility in the Male
DRS. W. O. NELSON, J. H. RANDALL, W. C. KEETTEL and UROLOGY STAFF

Post Graduate Conference in Internal Medicine

April 5, 6, 7, 8—Room E-331, University Hospitals

Attendance is limited to a reasonable number and applications will be accepted in the order they are received when accompanied by the registration fee of \$40.00. Checks should be made payable to the State University of Iowa and mailed with your application to the Director of Medical Post Graduate Studies, Room 259, Medical Laboratory Building.

Department Staff

WILLIAM B. BEAN, M.D., Professor and Head of Department of Internal Medicine
T. LYLE CARR, M.D., Assistant Professor
KATE DAUM, M.D., Director of Nutrition and Associate Professor
ELMER L. DeGOWIN, M.D., Associate Professor
RICHARD ECKHARDT, M.D., Associate
JAMES F. EMBICK, M.D., Associate
WILLIS M. FOWLER, M.D., Professor
MURRAY FRANKLIN, M.D., Associate
HENRY E. HAMILTON, M.D., Associate

LEWIS E. JANUARY, M.D., Assistant Professor
WALTER M. KIRKENDALL, M.D., Instructor
WILLIAM D. PAUL, M.D., Associate Professor
PAUL SEEBOHM, M.D., Associate
RAYMOND F. SHEETS, M.D., Instructor

Guest Lecturers

HUGH R. BUTT, M.D., Associate Professor of Medicine, Mayo Foundation, Graduate School, University of Minnesota
WESLEY W. SPINK, M.D., Professor, Internal Medicine, University of Minnesota College of Medicine
EMORY D. WARNER, M.D., Professor and Head, Department of Pathology, State University of Iowa College of Medicine
S. M. HORVATH, Ph.D., Associate Professor of Physiology, State University of Iowa College of Medicine

Program

Wednesday, April 5

- 9:00 Registration
- 9:15 Welcome—DR. W. B. BEAN
- 9:30 Treatment of Anemias
DR. W. M. FOWLER
- 10:30 Recess
- 10:45 Recent Developments in the Treatment of Leukemias
DR. W. M. FOWLER
- 12:30 Lunch
- 1:30 Medical-Surgical Conference
Discussion by DRS. E. L. DeGOWIN, W. D. PAUL, T. LYLE CARR and HOSPITAL STAFF
- 3:00 Recess
- 3:30 Clinical Pathological Conference
Department of Pathology
DRS. E. D. WARNER, W. B. BEAN and HOSPITAL STAFF
- 6:00 Johnson County Medical Society Meeting
Hotel Jefferson

Thursday, April 6

- 9:30 Rational Antibiotic Therapy
DR. W. SPINK
- 10:30 Recess
- 10:45 Infectious Disease Clinic
DR. W. SPINK
- 12:30 Lunch
- 1:30 Fundamental Immunological Aspects of Allergic Disease
DR. P. SEEBOHM
- 2:30 Recess
- 2:45 Present Status of Therapy in Allergic Disease
DR. P. SEEBOHM
- 3:45 Roundtable Discussion with Case Presentations: Infectious and Allergic Disease Processes
DRS. W. SPINK, P. SEEBOHM and INTERNAL MEDICINE STAFF

Friday, April 7

- 9:30 Cirrhosis: Current Concepts of Prognosis and Treatment
DR. H. R. BUTT
- 10:30 Recess
- 10:45 Digestive Disease Clinic
DR. H. R. BUTT
- 12:30 Lunch
- 1:30 Differential Diagnosis of Icterus by Laboratory Methods
DR. MURRAY FRANKLIN
- 2:30 Parenteral Protein Nutrition in Man
DR. R. D. ECKHARDT
- 3:30 Recess
- 3:45 Roundtable Discussion with Case Presentations
DRS. H. R. BUTT, M. FRANKLIN, R. D. ECKHARDT and INTERNAL MEDICINE STAFF
- 6:30 Dinner-Conference Meeting
Hotel Jefferson

Saturday, April 8

- 9:30 Pulmonary Function Tests
DR. S. M. HORVATH
- 10:20 Applications of the Technique of Intravenous and Intracardiac Catheterization
DR. J. W. CULBERTSON
- 11:10 Recess
- 11:20 Use of Anticoagulant Therapy in Myocardial Infarction
DR. L. E. JANUARY

SPEAKERS BUREAU

HAROLD MARGULIES, M.D., *Chairman*

JOHN I. MARKER, M.D., Davenport

HORACE M. KORNIS, M.D., Dubuque

ROBERT N. LARIMER, M.D., Sioux City

JAMES H. ALLEN, M.D., Iowa City

CHARLOTTE FISK, M.D., Des Moines

FRANK R. PETERSON, M.D., Cedar Rapids

SPRING CANCER INSTITUTE

A program of unusual interest is to be presented on March 16 at Woodward. This is the spring cancer institute, given under the sponsorship of the Cancer Division of the State Department of Health, the Iowa Division of the American Cancer Society and the Speakers Bureau.

We have been fortunate in getting well known speakers who are in great demand as medical lecturers. This meeting will provide a dinner without cost to the attending physicians. The program, as listed below, will be conducted on time for each lecture. The institute will begin at 4:00 p.m.

Carcinomas of the Stomach

Howard K. Gray, M.D., Mayo Clinic, Rochester, Minn.

Carcinomas of the Cervix

Ralph A. Reis, M.D., Chicago, Ill.

The Differential Diagnosis and Treatment of Cutaneous Malignancies

Robert G. Carney, M.D., University Hospitals, Iowa City

X-Ray and Radium Therapy

R. E. Fricke, M.D., Mayo Clinic, Rochester, Minn.

REPORT OF QUESTIONNAIRE

All of the active members of the State Medical Society have by now received a questionnaire concerning the functions of the Speakers Bureau. Several hundred of these have been returned to the department, and we have had the opportunity to go over them to some extent. They are interesting, provocative and will likely be very helpful.

We don't know how fair a sampling has been achieved, but enough answers of uniform nature have come in to give us some leads. It is apparent, for instance, that certain types of programs and certain hours are preferred. There is a large minority which has different ideas of importance, which we want to use in our plans.

By far the largest majority of doctors who are in practice throughout the state are interested in meetings which begin with dinner in the evening or shortly thereafter. They prefer talks either singly or as a type of symposium which is located as near to their homes as possible. They like, second to that, a meeting in a place like the State University of a short course variety, and many of them have spoken favorably of what the University has done in the past and what has been done at the University of

Minnesota. A number of general practitioners said that they would like to have meetings at 8:30 or 9:00 in the morning.

The type of subject regarded with the greatest favor was one of general interest and of a practical nature for the man in practice or one which reviewed recent advances in medicine. The latter type of program had a larger number of proponents than we had anticipated. There are not as many, on the other hand, who asked for medical movies as we had expected. Very few were interested in basic science lectures.

One of the great advantages in this type of survey, which obtains responses from many people, is to overcome the effect of the occasional individual who has a particular prejudice in one direction or another. Frequently, these are the only ones who express their opinions, and as a result we may get biased ideas of what the men in practice as a whole actually desire. Letters were received in some instances from people who, having a genuine interest in the problem involved, took considerable time to write thought-provoking letters. It should be stated, we appreciate them very much.

Those of you who still have the questionnaire and have not sent it in, please do so at the earliest possible opportunity. The object of this inquiry is to do the best kind of a job we can for the members of the State Society, and the more representative the result that is received, the better we can do this. At a later date we shall attempt to give a more statistical summary of the results of this survey.

SPEAKERS BUREAU RADIO SCHEDULE

WSUI—Tuesdays at 11:30 a.m.

WOI—Thursdays at 11:15 a.m.

March 7- 9	Early Detection of Cancer John J. Rowe, M.D., Waterloo
March 14-16	Treatment of Cancer Robert Hickey, M.D., Iowa City
March 21-23	Easter Seals for Crippled Children Iowa Society for Crippled Children and Adults
March 28-30	Newer Drugs—Antihistamine Irving Hanssmann, M.D., Council Bluffs

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

BRUCELLOSIS (UNDULANT FEVER)—By *Harold J. Harris*, M.D., F.A.C.P., with the assistance of *Blanche L. Stevenson*, R.N. Foreword by *Walter M. Simpson*, M.S., M.D., F.A.C.P. Second Edition, Revised and Enlarged. New York, Paul B. Hoeber, Inc., 1950. Price \$10.00.

DISEASES OF THE FOOT—By *Emil D. W. Hauser*, M.S., M.D., Associate Professor of Bone and Joint Surgery, Northwestern University Medical School; Attending Orthopedic Surgeon, Passavant Memorial Hospital, Chicago. Second Edition, Illustrated. Philadelphia and London, W. B. Saunders Co., 1950. Price \$7.00.

PHYSIOLOGY OF THE EYE: Volume One—By *Arthur Linksz*, M.D., F.A.C.S., Manhattan Eye, Ear and Throat

Hospital; University Hospital; New York University College of Medicine. Foreword by *Walter B. Lancaster*, M.D. New York, Grune & Stratton, 1950. Price \$7.50.

QUINIDINE in Disorders of the Heart—By *Harry Gold*, M.D., Professor of Clinical Pharmacology at Cornell University Medical College; Attending-in-Charge of the Cardiovascular Research Unit at the Beth Israel Hospital; Attending Cardiologist at the Hospital for Joint Disease; Managing Editor of the Cornell Conferences on Therapy. New York, Paul B. Hoeber, Inc., 1950. Price \$2.00.

THE SALT-FREE DIET COOK BOOK—By *Emil G. Conason*, M.D., and *Ella Metz*, Dietitian. New York, Lear Publishers, Inc., 1949. Price \$3.00.

BOOK REVIEWS

AN ATLAS OF AMPUTATIONS

By *Donald Slocum*, M.D., M.S., Orthopaedic Surgeon, Sacred Heart General Hospital, Eugene, Ore.; Member of American Academy of Orthopaedic Surgeons and American Society for Surgery of the Hand; Branch Consultant in Orthopaedic Surgery, U. S. Veteran's Administration; Formerly Chief of the Amputation Section, Walter Reed General Hospital, Washington, D. C. St. Louis, The C. V. Mosby Co., 1949. Price \$20.00.

Dr. Slocum has compiled an atlas of amputations which is well planned, well illustrated and calculated to supply helpful advice to anyone performing amputations. An excellent section defines the objectives of amputation surgery. Surgical considerations and technics are completely reviewed. The rehabilitation of the amputee is thoroughly discussed. Dr. Slocum has been assisted by surgeons of the army amputation centers whose rich experience in the recent war has done much to correct many of the problems besetting the amputee. This volume should prove helpful as a reference book, and Dr. Slocum is to be congratulated for his thorough presentation.

Everett M. George, M.D.

OPERATIONS OF GENERAL SURGERY

By *Thomas G. Orr*, M.D., Professor of Surgery University of Kansas School of Medicine, Kansas City, Kan. Second Edition. Philadelphia and London, W. B. Saunders Co., 1949. Price \$12.50.

The author has presented the surgical conditions more commonly encountered in general surgical practice with the operative treatment for them. Operations are described in detail, and descriptions are accompanied by many illustrations which help the reader to understand the more difficult steps in technic.

Information concerning newer technics is available. This includes methods advanced in cardiac and vascular surgery, types of suture materials and advantages of each, operations of the thoracic cage, etc.

In summary, one may say that Dr. Orr has written a practical textbook which is of value to the intern and resident in surgery and the general practitioner because it aids him to solve many everyday problems found in the average practice.

Robert Jongewaard, M.D.

ESSENTIALS OF OBSTETRICAL AND GYNECOLOGICAL PATHOLOGY

By *Robert L. Faulkner*, M.D., F.A.C.S., Assistant Professor of Gynecology, The Western Reserve Medical School; Associate Gynecologist, University Hospitals of Cleveland, Ohio. And *Marion Douglass*, M.D., Formerly Assistant Professor of Gynecology, The Western Reserve Medical School. Second Edition. St. Louis, The C. V. Mosby Co., 1949. Price \$8.75.

The second edition is a much larger book. New chapters have been added, and several chapters have been amplified. There has been improvement of previous illustrations and the addition of many new ones, adding to the value of the book.

Each chapter considers the normal histology of the organ; then consideration is given of the diseases peculiar to that organ. There is excellent correlation of important clinical data with adequate illustrations of important histologic changes. The style is concise. Personal opinions are eliminated, and there is a straight forward tabulation of existing knowledge. The subject matter is accurate and up to date.

The book will be appealing to medical students, interns and general practitioners interested in obstetrics and gynecology. Obstetric and gynecologic residents and specialists in this field will find this book a very useful addition to their library.

William C. Keettel, M.D.

SURGICAL TREATMENT OF THE SOFT TISSUES

Supervising Editor: *Frederic W. Bancroft*, A.B., M.D., F.A.C.S., Associate Clinical Professor of Surgery, Columbia University; Attending Surgeon, New York City and Beth David Hospitals; Consulting Surgeon, Veterans Administration, Lincoln and Harlem Hospitals, New York; Kings Park State Hospital, Kings Park, New York. Associate Editor: *George H. Humphreys*, II, A.B., M.D., Sc.D., F.A.C.S. Valentine Mott Professor of Surgery, Columbia University, College of Physicians and Surgeons; and Director of Surgical Service, The Presbyterian Hospital, New York. Philadelphia, J. B. Lippincott Co., 1948. Price \$15.00.

This volume is divided into the following sections dealing with the surgical treatment of the soft tissues of the respective areas of the body: hernia, skin, hand, face, plastic surgery, burns and freezing, infections, neoplasms, arteries, veins and lymphatics.

Each section has been prepared by well known surgeons and leaders in their respective specialties. There are 21 authors represented. Each author has presented in a concise manner the surgical treatment of his subject. The symptomatology, diagnosis and etiology is usually omitted since the book is presented to show the new and difficult surgical procedures performed today for various conditions, diseases and anomalies. All surgical procedures for any given lesion are not presented, but a description only of those that today are believed to be the most valuable. Therefore, many of the new advances in surgery are presented.

The surgical anatomy in relation to the specific field of surgery is presented. The operative steps are presented in a concise and direct fashion, step-by-step. Every section is well represented by clear, comprehensive drawings, illustrations, diagrams and photographs.

The sections on large arteries and veins, bones, plastic surgery and venous thrombosis are very instructive, placing the latest information before the physician and surgeon in a manner which can be readily evaluated and understood.

Louis T. Palumbo, M.D.

ATLAS OF OBSTETRIC TECHNIC

By *Paul Titus*, M.D., Obstetrician-Gynecologist to the St. Margaret Memorial Hospital, Pittsburgh; Secretary, American Board of Obstetrics and Gynecology. Illustrations by *E. M. Shackelford*, Formerly Medical Illustrator, John C. Oliver Memorial Research Foundation, St. Margaret Memorial Hospital, Pittsburgh. Second Edition. St. Louis, The C. V. Mosby Co., 1949. Price \$7.50.

In this new second edition Dr. Titus deals with many practical problems met with in both operative and uncomplicated obstetric practice. The illustrations are detailed and clearly depict step-by-step

procedures in various types of deliveries and obstetric surgery.

Of special interest is the chapter dealing with the problem of sterility, including discussion of the most common causes, diagnosis and the steps that should be taken toward their correction. This new edition also includes a section on analgesia and anesthesia, dealing briefly with the indications and uses of a local perineal block, continuous caudal anesthesia and saddle block. The various types of Caesarian section are presented with numerous illustrated diagrams, and a special emphasis is placed on the need for individualization of the type of section to the particular case. Minor and major surgical procedures necessary during pregnancy are discussed and illustrated. A section on postpartum procedures includes technics for sterilization and the minor surgery entailed in the management of infections of the cervix and the breast.

The book is written in a concise and lucid manner, and the desired material is readily found. I feel it should be a valuable reference book.

Mary L. Lyons, M.D.

PSYCHOSEXUAL DEVELOPMENT IN HEALTH AND DISEASE

The Proceedings of the Thirty-Eighth Annual Meeting of the American Psychopathological Association, Held in New York City, June, 1948.

Edited by *Paul H. Hoch*, M.D., New York State Psychiatric Institute; Columbia University, College of Physicians and Surgeons, New York City; and *Joseph Zubin*, Ph.D., New York State Psychiatric Institute; Department of Psychology, Columbia University, New York City. New York, Grune & Stratton, Inc., 1949. Price \$4.50.

This volume is a collection of articles written by competent observers in the various disciplines relating to sexuality. Among the disciplines represented are psychoanalytic, anthropologic and sociologic. In addition, there are found articles dealing with psychosexuality in animals by Gantt and therapeutic attitudes toward human psychosexual disorders by Robert Knight.

The book came to be compiled by the editors for the American Psychopathological Association because they felt a need "to reduce the present day dogmatism about the debatable aspects" of sex. Therefore, within it are found some apparently incompatible facts and hypotheses. These facts need synthesis; an hypothesis is required which will account for the known facts about sex and which will accept and integrate into itself new facts as they come to light in human and animal life. This is one of the functions of researchers and scientists. The book, then, contributes nothing new to the totality of human understanding of sexuality but should contribute something new to each individual reader's knowledge of the subject. The volume may contribute to human knowledge by bringing formerly isolated facts into new combinations and approximations.

Howard V. Turner, M.D.

COUNTY MEDICAL SOCIETY OFFICERS

COUNTY	PRESIDENT	SECRETARY	DEPUTY COUNCILOR
Adair.....	R. E. Wiley, Fontanelle.....	A. S. Bowers, Orient.....	A. S. Bowers, Orient
Adams.....	C. L. Bain, Corning.....	J. C. Nolan, Corning.....	A. W. Brunk, Prescott
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Appanoose.....	R. R. Edwards, Centerville.....	E. F. Ritter, Centerville.....	E. A. Larsen, Centerville
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Boone.....	R. L. Wicks, Boone.....	H. C. Scharnweber, Boone.....	H. C. Scharnweber, Boone
Bremer.....	O. C. Hardwig, Waverly.....	W. C. Wildberger, Waverly.....	F. R. Sparks, Waverly
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Butler.....	P. W. Van Metre, Rockwell City.....	F. F. McKean, Allison.....	Bruce Ensley, Shell Rock
Calhoun.....	V. T. Lindsay, Glidden.....	C. E. Knouf, Lake City.....	W. W. Weber, Pomeroy
Carroll.....	W. F. Giegerich, Atlantic.....	L. H. Kuker, Carroll.....	W. L. McConkie, Carroll
Cass.....	Fred Montz, Lowden.....	W. C. Kitson, Atlantic.....	
Cedar.....	G. J. Sartor, Mason City.....	O. E. Kruse, Tipton.....	P. M. Hoffman, Tipton
Cerro Gordo.....	D. C. Koser, Cherokee.....	G. I. Tice, Mason City.....	G. J. Sartor, Mason City
Cherokee.....	A. L. Murphey, Fredericksburg.....	H. D. Seely, Cherokee.....	C. H. Johnson, Cherokee
Chickasaw.....	F. S. Bowen, Woodburn.....	J. H. Ahrens, New Hampton.....	P. E. Gardner, New Hampton
Clarke.....	E. M. Christensen, Spencer.....	C. R. Harken, Osceola.....	H. E. Stroy, Osceola
Clay.....	C. R. Goddard, Guttenberg.....	F. D. Edington, Spencer.....	C. C. Jones, Spencer
Clayton.....	J. R. Jowett, Clinton.....	T. W. Lichter, Edgewood.....	P. R. V. Hommel, Elkader
Clinton.....	F. A. Wilke, Perry.....	R. A. Huber, Charter Oak.....	R. F. Luse, Clinton
Crawford.....	Richard Schoonover, Bloomfield.....	C. A. Nicoll, Panora.....	R. M. Johnson, Denison
Dallas-Guthrie.....	K. R. Brown, Leon.....	C. A. Young, Bloomfield.....	C. A. Nicoll, Panora
Davis.....	Paul Stephen, Manchester.....	T. R. Viner, Leon.....	G. W. Gilfillan, Bloomfield
Decatur.....	F. H. Coulson, Burlington.....	P. G. Meyers, Manchester.....	F. A. Bowman, Leon
Delaware.....	T. L. Ward, Arnolds Park.....	R. B. Allen, Mediapolis.....	F. G. Ober, Burlington
Des Moines.....	D. F. Ward, Dubuque.....	R. F. Wolcott, Spirit Lake.....	T. L. Ward, Arnolds Park
Dickinson.....	E. K. Vaubel, Estherville.....	C. A. Darrow, Dubuque.....	J. C. Painter, Dubuque
Dubuque.....	B. A. Hall, Maynard.....	J. L. Powers, Estherville.....	S. C. Kirkegaard, Estherville
Emmet.....	R. W. Stober, Charles City.....	M. G. Beddoes, Oswein.....	C. C. Hall, Maynard
Fayette.....	W. R. Arthur, Hampton.....	E. V. Ayers, Charles City.....	R. A. Fox, Charles City
Floyd.....	Ralph Lovelady, Sidney.....	R. T. Day, Hampton.....	J. C. Powers, Hampton
Franklin.....	P. E. Lohr, Churdan.....	A. E. Wanamaker, Hamburg.....	A. E. Wanamaker, Hamburg
Fremont.....	H. V. Kahler, Reinbeck.....	E. D. Thompson, Jefferson.....	M. H. Brinker, Jefferson
Greene.....	G. A. Paschal, Webster City.....	C. H. Bartruff, Reinbeck.....	W. O. McDowell, Grundy Center
Grundy.....	G. F. Dolmage, Buffalo Center.....	W. B. McGahey, Stratford.....	B. F. Howar, Webster City
Hamilton.....	E. J. Steenrod, Iowa Falls.....	Thomas Mangan, Forest City.....	C. V. Hamilton, Garner
Hancock-Winnebag.....	C. W. Byrnes, Dunlap.....	F. N. Cole, Iowa Falls.....	F. N. Cole, Iowa Falls
Hardin.....	J. R. McKirahan, Wayland.....	Hans Hansen, Logan.....	F. H. Hanson, Magnolia
Harrison.....	D. O. Maland, Cresco.....	K. P. Beebe, Mount Pleasant.....	J. S. Jackson, Mt. Pleasant
Henry.....	N. E. T. Schultz, Humboldt.....	C. W. Ahl, Cresco.....	P. A. Nierling, Cresco
Howard.....	F. Heiler, Ida Grove.....	A. S. Arent, Humboldt.....	I. T. Schultz, Humboldt
Humboldt.....	D. F. Miller, Williamsburg.....	J. B. Dressler, Ida Grove.....	M. W. Grubb, Galva
Ida.....	J. J. Tilton, Bellevue.....	I. J. Sinn, Williamsburg.....	I. J. Sinn, Williamsburg
Iowa.....	J. W. Ferguson, Newton.....	J. E. Swegart, Maquoketa.....	F. J. Swift, Maquoketa
Jackson.....	I. N. Crow, Fairfield.....	J. R. Singer, Newton.....	F. W. Wood, Newton
Jasper.....	G. D. Callahan, Iowa City.....	Robert A. Ryan, Fairfield.....	I. N. Crow, Fairfield
Jefferson.....	R. D. Paul, Anamosa.....	E. J. Boyd, Iowa City.....	G. C. Albright, Iowa City
Johnson.....	K. L. McGuire, Keota.....	R. W. Myers, Monticello.....	T. M. Redmond, Monticello
Jones.....	J. N. Kenefick, Algona.....	John Maxwell, What Cheer.....	D. L. Grothaus, Delta
Keokuk.....	R. E. Cooper, Keokuk.....	J. M. Schutter, Algona.....	J. G. Clapsaddle, Burt
Kossuth.....		R. W. Speers, Fort Madison.....	R. L. Feightner, Fort Madison
Lee.....			G. H. Ashline, Keokuk
Linn.....	D. S. Challed, Cedar Rapids.....	John Parke, Cedar Rapids.....	B. F. Wolverson, Cedar Rapids
Louisa.....	L. E. Weber, Wapello.....	J. H. Chittum, Wapello.....	J. H. Chittum, Wapello
Lucas.....	D. B. Sallis, Chariton.....	R. E. Anderson, Chariton.....	S. L. Throckmorton, Chariton
Lyon.....	A. C. Wubbena, Rock Rapids.....	S. H. Cook, Rock Rapids.....	S. H. Cook, Rock Rapids
Madison.....	G. J. Anderson, Winterset.....	P. F. Chesnut, Winterset.....	C. B. Hickenlooper, Winterset
Mahaska.....	M. R. Greenlee, Oskaloosa.....	R. M. Collison, Oskaloosa.....	E. B. Wilcox, Oskaloosa
Marion.....	J. W. Doles, Knoxville.....	W. W. Bourke, Knoxville.....	H. L. Bridgeman, Knoxville
Marshall.....	J. J. Stegman, Marshalltown.....	E. L. Keyser, Marshalltown.....	A. D. Woods, State Center
Mills.....	W. A. DeYoung, Glenwood.....	T. E. Shonka, Malvern.....	D. W. Harman, Glenwood
Mitchell.....	W. E. Owen, St. Ansgar.....	C. F. Watson, Stacyville.....	J. O. Eiel, Osage
Monona.....	L. A. Gaukel, Onawa.....	P. L. Wolpert, Onawa.....	C. W. Young, Onawa
Monroe.....	W. S. Chester, Albia.....	T. A. Moran, Melrose.....	H. J. Richter, Albia
Montgomery.....	E. M. Sorensen, Red Oak.....	S. D. Poore, Villisca.....	Oscar Alden, Red Oak
Muscatine.....	C. P. Phillips, Muscatine.....	W. E. Catalana, Muscatine.....	C. P. Phillips, Muscatine
Muscatine.....	L. H. Mattice, Sheldon.....	W. S. Balkema, Sheldon.....	T. D. Kas, Sutherland
O'Brien.....	E. S. Aeilts, Sibley.....	Frank Rizzo, Sibley.....	Frank Reinsch, Ashton
Osceola.....	C. H. Brush, Shenandoah.....	S. T. Ramsdell, Clarinda.....	W. H. Maloy, Shenandoah
Page.....	J. E. Black, Emmetsburg.....	W. A. Johnson, Emmetsburg.....	H. L. Brereton, Emmetsburg
Palo Alto.....	R. J. Fisch, Le Mars.....	L. C. O'Toole, Le Mars.....	H. L. Vander Stoep, Le Mars
Plymouth.....	J. M. Rhodes, Pocahontas.....	C. L. Jones, Gilmore City.....	C. L. Jones, Gilmore City
Pocahontas.....	L. F. Hill, Des Moines.....	B. M. Merkel, Des Moines.....	R. J. Steves, Des Moines
Polk.....	E. M. Lambert, Council Bluffs.....	A. M. Pedersen, Council Bluffs.....	G. N. Best, Council Bluffs
Pottawattamie.....	W. M. Page, Montezuma.....	E. S. Korfmaier, Grinnell.....	C. E. Harris, Grinnell
Poweshiek.....	W. G. Doss, Mount Ayr.....	J. W. Hill, Mount Ayr.....	E. J. Watson, Diagonal
Ringgold.....	C. E. Lierman, Lake View.....	A. A. Blum, Wall Lake.....	J. R. Dewey, Schaller
Sac.....	C. H. Matthey, Davenport.....	H. B. Weinberg, Davenport.....	A. P. Donohoe, Davenport
Scott.....	L. W. Savage, Harlan.....	J. H. Spearing, Harlan.....	
Shelby.....	A. L. McGilvra, Sioux Center.....	C. B. Murphy, Alton.....	Wm. Doornink, Orange City
Sioux.....	David Wall, Ames.....	W. B. Armstrong, Ames.....	Bush Houston, Nevada
Story.....	L. G. Schaeferle, Gladbrook.....	A. J. Havlik, Tama.....	A. A. Pace, Toledo
Tama.....	G. W. Rimel, Bedford.....	W. H. Cash, Lenox.....	G. W. Rimel, Bedford
Taylor.....	J. G. Macrae, Creston.....	C. E. Sampson, Creston.....	C. C. Rambo, Creston
Union.....	L. A. Coffin, Farmington.....	J. T. Worrell, Keosauqua.....	L. A. Coffin, Farmington
Van Buren.....	F. L. Nelson, Jr., Ottumwa.....	E. B. Hoeven, Ottumwa.....	C. A. Henry, Farson
Wapello.....	C. A. Trueblood, Indianola.....	C. H. Mitchell, Indianola.....	C. H. Mitchell, Indianola
Warren.....	J. R. Miller, Wellman.....	W. S. Kyle, Washington.....	E. D. Miller, Wellman
Washington.....	A. E. Davis, Seymour.....	C. F. Brubaker, Corydon.....	J. H. McCall, Allerton
Wayne.....	O. N. Glesne, Ft. Dodge.....	D. S. Egbert, Ft. Dodge.....	C. J. Baker, Fort Dodge
Webster.....	J. G. Goggin, Ossian.....	E. F. Hagen, Decorah.....	L. C. Kuhn, Decorah
Winnebago.....	W. K. Hicks, Sioux City.....	M. A. Blackstone, Sioux City.....	D. B. Blume, Sioux City
Woodbury.....	S. S. Westly, Manly.....	G. S. Westly, Manly.....	S. S. Westly, Manly
Worth.....	R. L. Gorrell, Clarion.....	J. R. Christensen, Eagle Grove.....	J. H. Sams, Clarion
Wright.....			

WOMAN'S AUXILIARY

to the

Iowa State Medical Society

Organized May 9, 1929, Des Moines, Iowa

TWENTY-FIRST ANNUAL MEETING

Burlington, Iowa

Mrs. Roger M. Minkel, President, Presiding

PROGRAM

Monday, April 24

Y. W. C. A.

- 9:00 a.m. Executive Board Meeting
Board members, county presidents, presidents-elect and past presidents of the State Auxiliary
Registration—Exhibits
- 10:15 a.m. General Meeting
Invocation—Reverend Bruce Masselink
Welcome—Mrs. George B. Crow, president, Woman's Auxiliary to the Des Moines County Medical Society
Response—Mrs. Claire H. Mitchell, president-elect, Woman's Auxiliary to the Iowa State Medical Society
In Memoriam—Mrs. Soren S. Westley, historian
Minutes of last annual meeting
Presentation of convention chairman, Mrs. Carl J. Lohmann
Announcements of committees
Who, What and Why?

Masonic Temple

- 12:30 pm. Luncheon
Guests of honor—Dr. Nathaniel G. Alcock, president, Iowa State Medical Society; Dr. Thomas F. Thornton, president-elect, Iowa State Medical Society; Dr. Robert N. Larimer, trustee, Iowa State Medical Society; and Dr. James E. Reeder, advisor, Woman's Auxiliary to the Iowa State Medical Society
- 2:00 p.m. Panel Discussion—The Auxiliary at Work
Mrs. Morris G. Beddoes, program chairman
Special projects chairmen—Mrs. James E. Whitmire, Mrs. William R. Hornaday, and Mrs. James S. Jackson

Moir Hall, Burlington Nursing Home

- 4:00 p.m. Tea
- 8:00 p.m. Bridge

Tuesday, April 25

Mezzanine, Hotel Burlington

- 7:30 a.m. Breakfast—County presidents, delegates and members-at-large
Roundtable—Discussion "66", Needs for Furthering Auxiliary Program, Mrs. E. B. Howell, councilor, presiding

Social Room, Congregational Church

- 8:30 a.m. Coffee for all women attending annual meeting—The Executive Board greets you for informal talks
- 9:30 a.m. General Meeting
Report of finance committee, proposed budget—Mrs. Marion H. Brinker, chairman
Presentation to convention of mimeographed reports of officers, chairmen, and county presidents
Resume of report—Mrs. Charles H. Coughlan, corresponding secretary
Election of delegates to national meeting, San Francisco
Report of nominating committee—Mrs. Allan G. Felter, chairman
Election of officers
Report of registration committee
- 11:00 a.m. Women in a Socialist Program—Dr. Marjorie Shearon, Legislative Medical Service, Washington, D. C.

Burlington Country Club

- 12:30 p.m. Luncheon
Guests of honor—Mrs. Marjorie Shearon, Legislative Medical Service, Washington, D. C.; Dr. Fred Sternagel, chairman, public relations, Iowa State Medical Society; Dr. Ransom D. Bernard, chairman, Legislation, Iowa State Medical Society; and Mr. Donald L. Taylor, field secretary, Iowa State Medical Society

Introduction of guests and greetings

- 2:00 p.m. Panel Discussion—It's Your Crusade Too
Program planning on public relations and legislation for the doctor's wife and for the public
- 3:00 p.m. Installation of officers
Adjournment
- 3:30 p.m. Postconvention board meeting
- 7:00 p.m. Iowa State Medical Society Banquet

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. ROGER M. MINKEL, Fort Dodge

President-elect—MRS. CLAIRE H. MITCHELL, Indianola

Secretary—MRS. IVAN K. SAYRE, St. Charles

Treasurer—MRS. WILLIAM B. CHASE, JR., Des Moines

Corresponding Secretary—MRS. CHARLES H. COUGHLAN, Fort Dodge

LINES FROM THE PRESIDENT

The annual meeting which will convene April 23-26 in Burlington will be the one hundredth meeting for the Iowa State Medical Society and the twenty-first for the Auxiliary. In preparing for the annual meeting, the officers and chairmen have been mindful of former officers and members who have preceded them and who have forwarded the Auxiliary program. Organizations that do not progress do not stand still; they go backward. With this look toward the future, we have streamlined our annual meeting.

We feel that the members will take pride in the mimeographed reports and will be pleased to recognize that the little each individual might have contributed toward the Auxiliary program was actually a part of the whole. The annual meeting has been planned so that a complete picture of the Auxiliary program will be presented, that each member may become better informed and qualified to accept the challenge of "the best public relations person" for the doctor.

Let those who attend bring along the unaffiliated so that we may all realize our responsibilities and renew our pledges for an accelerated campaign to promote all objectives of the Auxiliary and the Iowa State Medical Society. Let us keep in mind the objects of our organization:

1. To extend the aims of the medical profession to all organizations which look to the advancement of health and health education.
2. To cultivate friendly relations and promote mutual understanding among physicians families.
3. To participate in such work as may be approved by the Iowa State Medical Society.
4. To coordinate and advise concerning the activities of the county Auxiliary.
5. To assist in the entertainment at all conventions of the Iowa State Medical Society.

Mrs. Roger M. Minkel

MID-WINTER BOARD MEETING

The mid-winter Board meeting of the Auxiliary to the Iowa State Medical Society was held at the Hotel Fort Des Moines, Des Moines, January 15, at 10:00 a.m. Those present were: Mrs. Roger Minkel, Fort Dodge; Mrs. E. E. Munger, Spencer; Mrs. H. H. Ennis, Manchester; Mrs. H. W. Smith, Woodward; Mrs. Fred Moore, Des Moines; Mrs. M. G. Beddoes, Oelwein; Mrs. C. H. Mitchell, Indianola; Mrs. L. K.

Shepherd, Des Moines; Mrs. C. J. Lohmann, Burlington; Mrs. John L. Hoyt, Creston; Mrs. M. H. Brinker, Jefferson; and Mrs. I. K. Sayre, St. Charles.

The following action was taken: A motion was made by Mrs. Moore, seconded by Mrs. Shepherd and carried, that all reports of officers, committee chairmen and county presidents be filed with the corresponding secretary by March 15 so that they may be compiled and mimeographed for presentation at the annual meeting.

A motion by Mrs. Moore to the effect that the nominating committee be elected at the mid-winter Board meeting was carried. A motion by Mrs. Brinker, seconded by Mrs. Lohmann, was carried, making the three highest on the nominating ballot the nominating board. Those elected were: Mrs. K. M. Chapler, Mrs. Fred Moore and Mrs. L. K. Shepherd. The president will appoint the chairman and one other.

A motion by Mrs. Brinker, seconded by Mrs. Moore, was carried, confirming the annual meeting as a workshop for disseminating information concerning the complete Auxiliary program.

It was moved by Mrs. Smith, seconded by Mrs. Brinker and carried, that copies of "So You've Joined the Auxiliary" be mimeographed for the use of the organization committee and county presidents. Mrs. Smith reported the organization of Black Hawk County.

A motion by Mrs. Brinker was carried that all Auxiliaries organized after national dues have been paid will collect regular dues for that year which will also cover dues for the following year. National dues will be held by the state treasurer until next payment comes due. Such action will place newly organized county Auxiliaries on the state mailing list at once.

Mrs. C. H. Lohman, general chairman of the annual meeting, presented the plans of the Des Moines County Auxiliary.

A balance of \$225 in the Nurses' Loan Fund was reported. It is necessary to build up this fund through personal gifts and special efforts if the project is to be really worthwhile. The 50 cents per member stipulation provides only a working nucleus.

The radio programs of the Iowa Council for Better Education on the first Saturday of the month

9:00—9:30 a.m. were reported. The Auxiliary will have the program on March 4, 9:15-9:30 a.m.

Dr. James A. Reeder, Sioux City, advisor to the Auxiliary, spoke about the immediate problems of the medical profession arising from the adverse criticism of the past 15 years and from proposed national health legislation. He urged that Auxiliary efforts must become state-wide to be effective and guaranteed his personal desire to cooperate toward that end. He emphasized the necessity of each county Auxiliary having an advisor from its county medical society.

SPECIAL COMMITTEE MEETING

The program and nominating committees met at the Hotel Fort Des Moines, Des Moines, at 10:30 a.m. February 8 to make plans and establish the agenda for the annual meeting. An outline of the program will be found in this issue of the JOURNAL.

The program committee consists of Mrs. C. H. Mitchell, Indianola, president-elect, chairman; Mrs. E. B. Howell, Ottumwa; Mrs. A. W. Puntenney, Boone; Mrs. P. L. Spencer, Baxter; Mrs. R. M. Minkel, Fort Dodge; and Mrs. W. S. Reilley, Red Oak.

Members of the nominating committee are: Mrs. A. G. Felter, Van Meter, chairman; Mrs. L. K. Shepherd, Des Moines; Mrs. Fred Moore, Des Moines; Mrs. K. M. Chapler, Dexter; and Mrs. C. H. Coughlan, Fort Dodge.

ANNUAL MEETING

The committees from Des Moines County Auxiliary together with the doctors' committees are working to plan for your meetings in Burlington April 24 and 25. If you have not made reservations, please call your husband's attention to the reservation slip which has been mailed to him so that accommodations may be found for all who expect to attend. The call for the Auxiliary meeting was mailed to each member, and reservations for luncheons and social events should be returned to facilitate the planning of the Des Moines County women who are your hostesses.

Mrs. C. J. Lohmann,
Convention Chairman

COUNTY PRESIDENTS

You have been mailed a report blank which asks for information regarding the activities of your Auxiliary. This will be your annual report for the year April 1949 to March 1950 and will be mimeographed by counties in the annual report booklet to be presented at the annual meeting. Kindly fill in and return the questionnaire as soon as possible, so that your county will be represented.

Mrs. C. H. Coughlan,
Corresponding Secretary

LEGISLATIVE BULLETIN RESPONSE

Auxiliary Headquarters reports a good response from members of the Auxiliary on the legislative bulletin and plan of action mailed in January. It gives a graphic picture of what individual members

are doing and can do in alerting their friends to the dangers of the present health bills before Congress. If you have not yet returned your slip, please do so at once as we wish to include total results in the printed annual report.

Mrs. C. C. Jones, Legislative Chairman
Mrs. A. B. Phillips and Mrs. L. K.
Shepherd, Public Relations Chairmen

IMPORTANT ANNOUNCEMENT

Hygeia, the health magazine published by the American Medical Association, will change its name to *Today's Health*, beginning with the issue of March 1950.

A new editor has been appointed, Dr. W. W. Bauer, director of the Bureau of Health Education, succeeding Dr. Morris Fishbein, who has retired.

Editorial policy will be expanded to embrace a colorful modern format, more illustrated features and picture stories, a new cartoon series, kitchen cookery for homemakers, and continued authoritative treatment of health subjects. These will include infant care, child training, teen development, common ailments of adults, and school, community and family health.

Hygeia was authorized by the Board of Trustees of the American Medical Association and established in 1923. It is now one of the most widely quoted health periodicals in the United States. There will be no change in fundamental policy under the new editorship or new name. The subscription rates will remain the same.

Frank V. Cargill
Director of Circulation
Hygeia, The Health Magazine

ACTIVITIES OF COUNTY AUXILIARIES

Following luncheon with the doctors at the Presbyterian Church in Panora, the Dallas-Guthrie Auxiliary held its regular meeting January 19. Mrs. William A. Seidler, Jr., president, conducted the meeting. Ten members and two guests were present. The president appointed committees for the new year and requested full cooperation in all Auxiliary projects recommended by the state. Mrs. Harold Hill of Guthrie Center reviewed Pearl Buck's *Kimfolk*.

Mrs. C. E. Porter

The Polk County Medical Auxiliary met for luncheon at Younker's Tea Room January 20, and held their annual business meeting. Forty-five members attended. The officers and committee chairmen for the preceding year read reports of the year's work, and the following officers were elected: Mrs. C. L. Putnam, president; Mrs. Howard H. Smead, president-elect; Mrs. George S. Marquis, vice president; Mrs. Robert W. Hoffman, secretary; Mrs. Dwight C. Wirtz, treasurer.

Mrs. W. B. Chase, Jr.

The annual January meeting of the Worth County Medical Society and Auxiliary was held at the home of Dr. and Mrs. S. S. Westly in Manly. Following business sessions, a buffet luncheon was served and a social time enjoyed. The attendance was 100 per cent.

Mrs. S. S. Westly

CRAFT AND HOBBY SHOWS PROVIDE MERRY CHRISTMAS FOR HANDICAPPED

It was a merrier Christmas this year for 59 handicapped persons in Iowa because of the efforts of the Women's Auxiliary of the Dubuque County Medical Society, the Sioux Med-Dames Auxiliary for the Woodbury County Medical Society and the State Society staff.

Just before Christmas checks totaling \$2,032.95 were mailed 59 handicapped persons for articles that were sold at two "Craft and Hobby Shows" held in November at Dubuque and Sioux City. In all, 1,582 articles were sold at the two shows.

The checks averaged just under forty dollars with the top amount earned by any one person being \$158.

Chairman of the Dubuque show project was Mrs. A. G. Entrenger with the cooperation of Mrs. Joe Lawrence. In Sioux City Mrs. Wayland K. Hicks was assisted by Mrs. Maria Jane Heffernan in heading the sale.

Two additional sales are planned for spring, one in Des Moines and one in Waterloo.

"Sunny Side" February, 1950

PUBLICATION PONDERINGS

Among those who have been to England to study the national health plan was Oscar Ewing who returned January 17 with the conclusion that "it is totally unsuited for the United States." He discovered that the national health plan in England is not just an insurance plan but just one phase of the contemplated reform of all basic social and economic structures. While he gleaned some "provocative ideas," he admitted that suggestions for changes in some of the provisions of the health insurance plan in the United States were in order. (Capitol Clinic No. 3)

We have heard and read considerable comment about the \$25 assessment of members of the A.M.A. for maintaining the campaign against socialized medicine. It is interesting to note that on January 6 Congressman Biemiller (D.-Wis.) "obtained permission to insert in the appendix of 'The Congressional Record' an article entitled 'The Dogged Retreat of the Doctors' by Milton Mayer, which appeared in *Harper's Magazine* December, 1949. Permission was granted, notwithstanding the fact that the article exceeded the space limitation at the additional cost to the taxpayers of \$410." (Capitol Clinic No. 3). It isn't the mountain that gets you down; it's the grain of sand in your shoe!

On the other hand, we have Representative Frank B. Keefe (R.-Wis.) lauding Richmond, Virginia's multiple screening clinic. Located on the seventh floor of a department store, the program takes care of 1,500 patients per week by means of tests including height, weight, chest x-ray, blood pressure, syphilis, hemoglobin, urine sugar and sight. The service is free and reports of examinations are made to each patient's private physician. The cost is born by the city health department with the cooperation

of the local medical society, the tuberculosis association, heart association, and public health service. Representative Keefe believes this venture is a real assurance of local rather than federal control of medical facilities. (Capitol Clinic No. 4).

The *Reader's Digest* is publishing a series of articles by Harold E. Stassen, president of the University of Pennsylvania, who has also been to England to study the national health plan. Articles in the January and February 1950 issues are now available not only to Auxiliary members but to the public at large. Doctors' wives should be on the alert to recommend them to laymen for quotations like the following *do* make an impression:

"I don't pay the doctor, but I *pay*!"

"More medical care of a lower quality for more people at a higher cost."

"Public health work, measures for prevention of disease, either in existence or planned, have been retarded and even abandoned. The people who jam doctor's offices and hospitals, and the program's cumbersome machinery, have absorbed the financial resources and energy of all concerned. The result is strikingly diminished progress in preventing disease."

Mrs. K. M. Chapler

TO A UNIT PRESIDENT

The joys of being a unit president are few and far between.

Her job is something like a big football game; first one side has it and then the other.

If she writes a postal, it is too short.

If she sends a letter, it is too long.

If she attempts to safeguard the interests of her unit, she is trying to run things; if she does not, she is allowing the unit to go to the dogs.

If she attends committee meetings, she is intruding; if she does not, she is a shirker.

If the attendance at meetings is slim, she should have had her committee working; if she had done this, she is a pest.

If the program is a success, the program committee is praised; if not, it is all the president's fault.

If the dues are called for, she thinks too much of the money.

If they are not collected, she is to blame.

If she is in a happy mood, she is frivolous.

If she is not, she's a sorehead.

If she asks for advice, she is incompetent.

If she does not, she is a 'know-it-all.'

Ashes to ashes, dust to dust.

If others won't do it, the president must!

Eleanor B. Turner in *The Iowa Legionnaire*
January 1950

(Mrs. Turner is the county president of the Tuberculosis and Cancer Societies, the wife of a dentist whose mother and father were both physicians.)

SOCIETY PROCEEDINGS

MEETINGS

Black Hawk

The annual business meeting of the Black Hawk County Medical Society was held December 20 at the Elks Club in Waterloo. Officers for 1950 were elected, and Mr. Roy Rodgers, director of labor relations for the John Deere Company, was on hand to answer questions regarding the Sickness Benefit Plan.

Mr. Lawrence W. Rember, assistant to the general manager of the A.M.A., spoke on "Health Horizons of 1950" at the regular meeting January 31 at the Elks Club in Waterloo.

Calhoun

Dr. Walter A. Anneberg of Carroll addressed the January 19 meeting of the Calhoun County Medical Society at Rockwell City on "The Pitfalls of Surgery."

Clinton

Dr. Frank E. Coburn, assistant professor of psychiatry at the SUI College of Medicine, was the featured speaker at a dinner meeting January 26 of the Clinton County Medical Society.

Dallas-Guthrie

The Dallas-Guthrie Medical Society and Auxiliary met January 19 at the Presbyterian Church in Panora for a dinner and program. Dr. William A. Seidler, new president of the medical group, presided. Dr. Charles A. Nicoll is secretary for 1950. Dr. Harold J. Peggs of Des Moines spoke on the subject, "Special X-Ray Procedure."

Delaware

The Delaware County Medical Society met January 11 at the Glen Charles Hotel for a dinner with the Auxiliary. Dr. Wayne K. Cooper of Cedar Rapids gave a discussion on x-ray findings of common chest conditions.

Dubuque

At the regular meeting of the Dubuque County Medical Society held at the Bunker Hill Club in Dubuque February 14, Dr. Corrin Hodgson of the Mayo Clinic, Rochester, Minn., spoke on "Malignancies of the Lung." The next meeting will be March 14, at which time Dr. Frank R. Peterson of Cedar Rapids will be guest speaker.

Emmett

Dr. Wayland K. Hicks of Sioux City spoke on "Prostatic Diseases" at a meeting February 7 of the Emmet County Medical Society in Estherville.

Jackson

All officers of the Jackson County Medical Society were re-elected for 1950 at the annual business session January 12 at Lakehurst. Dr. F. J. Swift, Sr., was named delegate and Dr. John A. Broman, alternate.

Johnson

The diagnosis and treatment of mental depressions was discussed by Drs. Jacques Gottlieb and Paul E. Huston of the SUI Psychopathic Hospital at the monthly dinner meeting of the Johnson County Medical Society February 1 at the Hotel Jefferson in Iowa City.

Mahaska

Dr. Kenneth M. Lemon was elected president of the Mahaska County Medical Society at a meeting January 18 at the Lacey Hotel in Oskaloosa. Other newly elected officers are Dr. Richard E. H. Phelps, vice president; Dr. Joseph Lederman, secretary; Dr. Edgar B. Wilcox, treasurer; Dr. Robert M. Collison, delegate; and Dr. Leroy F. Catterson, alternate. Dr. Fred J. Jarvis of Oskaloosa and Dr. Walter N. Wright of Rose Hill were elected to life membership in the county society.

Marshall

At the January 3 meeting of the Marshall County Medical Society in Marshalltown, Dr. Harold Margulies of Des Moines gave an address on "Diabetes."

Dr. Addison W. Brown of Des Moines spoke on "Office Gynecology" at the February 7 meeting in Marshalltown.

Monona

At a meeting of the Monona County Medical Society in Onawa January 13 Dr. Leo A. Gaukel was elected president; Dr. Harold L. Ganzhorn, vice president; and Dr. Paul L. Wolpert, secretary-treasurer. The meeting launched a drive to test for possible defective hearing of Monona County school children.

Muscatine

Dr. Clarence P. Phillips was elected president of the Muscatine County Medical Society at a dinner meeting January 24 in Muscatine. Dr. David C. Alf-tine was named vice president and Dr. William E. Catalona, secretary-treasurer.

Osceola

The Osceola County Medical Society held its regular monthly meeting January 12 at the Osceola Hospital.

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Dr. Payson Adams of Omaha was the guest speaker at the dinner meeting of the Page County Medical Society January 19 at the American Legion Club in Shenandoah.

Polk

The regular scientific meeting of the Polk County Medical Society was held February 15 at the Hotel Savery in Des Moines. Following dinner, Dr. Joseph L. Fetterman of Cleveland, Ohio, spoke on "A Survey of Psychiatry for the Practitioner With Particular Reference to the Use of Shock Therapy." Dr. Fetterman was formerly clinical professor of nervous and mental diseases at Western Reserve University School of Medicine.

Sioux Valley Medical Association

Dr. Mathew T. Morton of Estherville was elected vice president and Dr. Edward H. Sibley of Sioux City, secretary, at the fifty-fourth annual meeting of the Sioux Valley Medical Association in Sioux City January 24-26. Dr. Walter Benthack of Wayne, Neb., is the newly elected president. Dr. Anton Hyden of Sioux Falls, S. D., was re-elected treasurer.

Union

Mr. D. L. Bruner of Des Moines, executive secretary of the Iowa Pharmaceutical Association, and Mr. Donald L. Taylor, field secretary of the Iowa State Medical Society, were speakers at a joint meeting February 1 of the Union County Medical Society and the druggists from Creston and Afton.

Woodbury

Dr. Ralph J. Gambell, English trained physician, discussed "Socialized Medicine in Great Britain" at the regular dinner meeting of the Woodbury County Medical Society February 9 at the Martin Hotel in Sioux City. Dr. Gambell came to the United States last April, having found the British National Health Service so objectionable.

Worth

Dr. and Mrs. Soren S. Westly entertained the doctors of the Worth County Medical Society and its Auxiliary at their home January 22. A business meeting was held and officers elected, after which a buffet supper was served.

Cerro Gordo

Dr. Frederick A. DePeyster, department of surgery, University of Chicago, spoke on "Practical Diagnosis of Accessible Cancer" at a meeting of the Cerro Gordo County Medical Society February 14 at Hotel Hanford, Mason City.

Linn County

Speaker at the dinner meeting of the Linn County Medical Society and its Auxiliary at the Montrose Hotel, Cedar Rapids, February 9 was Dr. Ralph Major, professor of medicine at the University of Kansas.

PERSONALS

Dr. John Ahrens of New Hampton spoke there on "Health" at the regular meeting of the Business and Professional Women's Club on January 3.

Dr. John Atkinson and his wife **Dr. Shepherd Dana** have begun practice in Ottumwa. Dr. Atkinson, a 1943 graduate of the medical college of Buffalo University, took an internship at Cornell Medical Center, New York City, served as a flight surgeon with the air corps, and has taken a two years' residency in surgery at Beekman Hospital, New York, and was for two years a resident at Bellevue Hospital, New York, in medical anesthesia, in which specialty he will practice.

Dr. Dana was graduated from Cornell University Medical School, New York, in 1943. After serving an internship and assistant residency in obstetrics and gynecology at New York Lying-In Hospital, she was resident at Bellevue Hospital in New York City for three years.

Dr. Egmont H. Barg of Mason City was elected president of the medical staff of Mercy Hospital for 1950.

Dr. Harold C. Bastron of Red Oak has been elected chief of the medical staff of Murphy Memorial Hospital.

Dr. Alson E. Braley of New York City has been appointed professor and head of the department of ophthalmology of the SUI College of Medicine and will assume his duties July 1. Dr. Braley comes to SUI from the postgraduate medical school of New York University at Bellevue Medical Center, where he is now professor and chairman of the department of ophthalmology. Dr. Braley is a 1931 graduate of SUI College of Medicine and served his internship and residency there, afterwards instructing for two years.

Dr. Arthur C. Brown has opened new offices in Council Bluffs. Associated with him is **Dr. Louise M. Camel** of Omaha. Dr. Brown has been a member of the Cogley Clinic since 1935 and Dr. Camel for three months.

Dr. Julian M. Bruner of Des Moines gave a paper on "Safety Factors in Tourniquet Hemostasis" before the Fifth Annual Meeting of the American Society for Surgery of the Hand in New York City in February.

Dr. Paul T. Cash, Des Moines psychiatrist, will be the discussion leader at the meeting of the Polk County Society for Mental Hygiene at the City Library March 8.

Dr. J. W. Crossley, who has been practicing in Iowa Falls since June, has located in Ringsted, which has provided a clinic for him.

Dr. Donald C. Conzett of Dubuque has been re-elected president of the Finley Hospital staff.

Dr. Stuart C. Cullen, professor of general surgery and chairman of the division of anesthesiology at SUI College of Medicine, has recently been appointed to the nine-member certifying board for the American Board of Anesthesiology.

Dr. Ada Dunner of Des Moines, chief of the mental hygiene unit of the Veterans Administration, was the leader of a program on "Personality Problems of Adults" at a meeting of the Polk County Society for Mental Hygiene on February 8.

Dr. John E. Eichenlaub of Ackley spoke to the Rotary Club there on January 26 on "Socialized Medicine."

Dr. Stephan Fox of Ottumwa spoke on "What the Community Offers to Polio Victims" on a radio broadcast January 20, sponsored by the local chapter of the American Association of University Women.

Dr. Worth M. Gross, diplomate of the Board of Orthopedics, has become associated with Drs. Arch F. O'Donoghue and Edmund S. Donohue in Sioux City.

Dr. John W. Gauger of Early spoke on "Socialized Medicine" at the weekly luncheon program of the Sac City Kiwanis Club on January 30.

Dr. Werner M. Hollander, Davenport psychiatrist, spoke to the Optimist Club there February 10 on the need for larger and more complete psychiatric departments in general hospitals.

Dr. John L. Hoyt of Creston spoke on infantile paralysis in an address January 23 at the Creston Rotary Club.

Dr. Robert A. Huber, who has been practicing in Cedar Rapids for the past year, has opened an office in Osage.

Dr. Paul E. Huston, associate professor of psychiatry at SUI, discussed psychology in relation to psychiatry at the fourth annual conference on current trends in psychology at the University of Pittsburgh held February 9 and 10.

Dr. George H. Jardine of Creston led a discussion on "Rural Health Improvement" at the Rural Young Married Folks meeting there January 23.

Dr. Paul R. Hawley has resigned as chief executive of the Blue Cross-Blue Shield commission to accept the directorship of the American College of Surgeons.

Dr. Fred J. Jarvis, Oskaloosa's oldest practicing physician, has retired after almost a half century of practice. Dr. Jarvis was graduated in 1901 from SUI College of Medicine and after six years at Delta opened an office in Oskaloosa. **Dr. Robert M. Collison**, who came to Oskaloosa in March 1947 from Cedar Rapids, has purchased Dr. Jarvis' practice.

Dr. Herbert Kersten of Fort Dodge was guest speaker at the joint meeting of the Spencer Woman's Club and the women of the Clay County Farm Bureau February 7. His topic was "Our Trend Toward Socialism." Dr. Kersten spoke again on "Socialized Medicine" to the Fort Dodge Business Girls Club at the Y.W.C.A. on February 1.

Dr. Horace M. Korns of Iowa City took part in a symposium conducted by the Wisconsin Heart Association and the Milwaukee County Medical Society on January 13 at Milwaukee, Wis. He discussed "The Treatment of Coronary Artery Disease from the Standpoint of the Clinician." On January 20 Dr. Korns delivered a lecture at Cornell College, Mount Vernon, on the subject "What Everyone Should Know About Heart Disease."

Dr. Jean S. LePoidevin, pediatrician, has opened an office in Waterloo. Dr. LePoidevin was graduated in 1945 from the University of Wisconsin Medical School and served her internship at the University of Kansas Hospitals in Kansas City, Kan. Her general medical residency was served at Copley Hospital, Aurora, Ill., and she was a resident in pediatrics at Wisconsin General Hospital, Madison, from 1947 until November 1949.

Dr. Dean M. Lierle, professor and head of the SUI department of otolaryngology, was recently granted an honorary doctor of science degree from Wayne University in Detroit in recognition of Dr. Lierle's services to medical education.

Dr. Roger M. Minkel of Fort Dodge has been re-appointed county health physician.

Dr. M. L. Mosher, Jr., of Iowa City spoke on "Socialized Medicine" at the January 16 meeting of the Johnson County Republican Women's Club.

Dr. Charles A. Nicoll of Panora spoke on "Socialized Medicine" January 20 before the Washington Township P.-T.A. in Minburn.

Dr. Herbert B. Paulsen of Harris spoke on "Socialized Medicine" February 8 to the local P.-T.A.

Dr. Frank R. Peterson of Cedar Rapids gave an address on "Cancer and the Message of Hope for Cancer Control" at a meeting January 17 of the Keokuk Business and Professional Women's Club.

Dr. H. Joyce Perrin, Des Moines psychiatrist, addressed the annual meeting of the St. Joseph (Missouri) Child Guidance Center, to which she is consultant, on the subject of "Invoicing the First Year of a Child Guidance Center." Dr. Perrin spoke on January 24 before the Mother's Club of Westminster Church in Des Moines on "Personality Problems in Preschool Children."

Dr. Robert A. Powell of Shenandoah spoke on "Socialized Medicine" in a debate before the Business and Professional Women's Club of Shenandoah on January 18.

Dr. John H. Randall, professor of obstetrics and gynecology at SUI, was presented a portrait of himself by a number of the patients he has cared for in his 20 years at the College of Medicine. Dr. R. S. Grossman of Marshalltown presented the portrait in a ceremony at Memorial Union.

Dr. Albert A. Schultz of Fort Dodge was elected president of the Mercy Hospital staff at a meeting February 9.

Dr. Howard H. Smead of Des Moines has been appointed director of industrial medicine for Solar Aircraft Company. Dr. Smead has been resident medical director for Solar in Des Moines since March 1947. The appointment creates a new staff position and broadens Dr. Smead's services to include the San Diego, Calif., plant.

Dr. Wendall B. Sperow of Nevada has been appointed physician of the Story County Home and the county jail for 1950.

Dr. Isaac Sternhill of Council Bluffs spoke on "Socialized Medicine" to the Lions Club there on February 7.

Dr. Paul F. Tempel of Steamboat Rock has been named president of the Hardin County Public Health Council.

Dr. Donald V. Walz, who has been practicing in Lytton since last July, has closed his office there and returned to LeMars.

Dr. Leo H. Kuker of Carroll and Dr. Denvil F. Crowe of Templeton have opened offices together in Carroll. Dr. Crowe has moved to Carroll after practicing in Templeton for the past 18 months.

Four Davenport pediatricians, Drs. Preston E. Gibson, David F. Weaver, Joseph L. Kehoe and William J. Brown, have moved to their new \$70,000 combined center at 1503 Brady Street in Davenport.

Dr. Reuben B. Widmer of Winfield gave a talk on "Socialized Medicine" at a meeting February 9 of the Winfield Lions Club.

Dr. Edward F. Hagen of Decorah, Dr. Phillips E. Lohr of Churdan, Dr. Ivan T. Schultz of Humboldt, and Dr. Earl E. Gingles of Onawa were among the 98 doctors from eight states and Canada and Alaska to attend the University of Minnesota's continuation course in cardiovascular disease January 5-7.

Two new psychiatrists, Drs. Joseph Warrick and W. M. Crawford, have been added to the Independence State Mental Hospital staff.

Drs. Harry A. Collins, Neil J. McGarvey and James W. Chambers have announced the opening of their new Diagnostic Clinic, located at 2515 Grand Avenue, Des Moines. Practice is limited to internal medicine.

Newly elected officers of the Association of Medical Examiners, named at a meeting January 12, are Dr. James B. Fraser of Des Moines, president; Dr. George B. Mountain of Des Moines, vice president; and Dr. Verne L. Schlaser, re-elected secretary-treasurer.

Drs. Ralph A. Dorner, Albert E. Johann, C. Harlan Johnston, Martin I. Olsen and Howard H. Smead, all of Des Moines, are members of the Chamber of Commerce health committee.

DEATH NOTICES

Butterfield, Elwyn T., 40, died in a Las Vegas, N. M., Hospital January 22 of pneumonia. Dr. Butterfield was graduated from the SUI College of Medicine and served his internship at San Diego City Hospital, after which training he practiced with his father Dr. E. J. Butterfield in Dallas Center. Dr. Butterfield located in Albuquerque, N. M., following service in the army during World War II. He was a former member of the Dallas-Guthrie, Greene County and Iowa State Medical Societies.

Martin, George Henry, 67, died January 17 while visiting in Renwick. Dr. Martin practiced in Eagle Grove for 30 years, retiring in 1946 when he moved to California. He is a former member of the Wright County and Iowa State Medical Societies.

Von Lackum, Herman Julius, 88, practicing physician in Dysart for 64 years, died February 3 after an illness of several months. Son of a Waterloo physician, Dr. Von Lackum was graduated from King's Eclectic Medical College in Des Moines in 1886 as valedictorian of his class. After assisting his father in Waterloo, he located in Dysart in 1888. He was a life member of the Tama County and Iowa State Medical Societies.

The JOURNAL *of the* Iowa State Medical Society

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Members of the Iowa State Medical Society:

For the eighth time the College of Medicine has had the privilege of presenting a considerable part of the contents of an annual issue of the Journal of the Iowa State Medical Society. The Faculty of the College appreciates this privilege and has entrusted the editorial task to a special standing committee. The contributions herewith published will speak for themselves.

During the past year the College of Medicine suffered a great loss through the death of Dean Mayo H. Soley, who had in the short period of his service won the deep affection of all members of the Faculty. Under some circumstances such a shocking blow might well have been followed by a period of disruption and partial disintegration. It speaks well for the morale and integrity of the Faculty that it met the emergency with equanimity and an unselfish spirit. The Executive Committee appointed by the President to administer the affairs of the College has received wholehearted support and consideration. It is the opinion of the Committee that the general morale of the school has never been at a higher level.

Since last July we have had a number of losses from our group by retirement and resignation. The Faculty is deeply conscious of the tremendously important services which have been rendered to the State and to the College by Drs. N. G. Alcock and C. S. O'Brien and wishes to express its regret that they are no longer with our active group.

While these losses are great, the College has made significant advances. Arrangements have been completed for the admission of 120 students to the beginning class, although added facilities for the training of this number in the clinical years must still be provided. Sixteen important additions to the Faculty have been made in order to fill vacancies and meet the needs of expansion in education and research. Investigative activity has reached new heights. The list of publications from the Medical College during the past year exceeds that of any previous year in variety, breadth and number.

The College of Medicine looks forward to additional programs and extended activity during the coming year, especially in the training of physicians for general practice. Current activities in research and teaching will continue with full intensity, and it is our hope that our service to the State of Iowa and to medicine will continue its upward trend.

The Executive Committee

College of Medicine

State University of Iowa



Cecil S. O'Brien, M. D.

Dr. O'Brien was graduated from DePauw University and the University of Indiana Medical School. After an internship at Deaconess Hospital he entered the United States Navy and served until 1921, at which time he resigned to complete his eye training. He had taken the graduate course at the University of Pennsylvania while in the Navy and served a residency at Wills Hospital in 1921 and 1922.

Dr. O'Brien came to the University of Iowa as head of the new department of ophthalmology in 1926. During the time that Dr. O'Brien served as head of the department it became known throughout the world for its teaching and research. New standards were established for the undergraduate teaching of ophthalmology to medical students as well as to residents and post-graduate students. In addition, Dr. O'Brien initiated and encouraged the development of research so that the department became well known for its contributions in this field of ophthalmology.

As the result of these achievements numerous honors were bestowed upon Dr. O'Brien. In addition to the usual medical society affiliations Dr. O'Brien was elected to membership in the American Ophthalmological Society, the Ophthalmic Pathology Study Club and numerous other honorary societies. He also served for five years as secretary and treasurer of the Association for Research in Ophthalmology, for three terms on the American Board of Ophthalmology, for several years as a consultant for the National Society for the Prevention of Blindness and the United States Navy. He has been a member of the Executive Committee of the Ophthalmological Study Council since its organization and has served on numerous committees of the Pan-American Association of Ophthalmology.

Dr. O'Brien is recognized as one of the most outstanding teachers of ophthalmology of the present era.



Nathaniel G. Alcock, M. D.

In 1915 the late distinguished professor of surgery, Dr. Charles Rowan, with wisdom and far-sightedness, gathered about himself in the department of surgery a group of young men who had such latent qualities that needed only his "master's touch" to bring them to their full bloom. Dr. Howard Bye in general surgery, Dr. Arthur Steindler in orthopedics, and Dr. Nathaniel G. Alcock in urology became outstanding clinicians and teachers.

Dr. Alcock drank deeply of Dr. Rowan's teachings and, combining these with his own dynamic energy and fighting spirit, went on to develop an internationally famous department of urology—famous for developments in transurethral surgery, the possibilities of which he was one of the very first to clearly understand and fight to develop; famous for its clinical teachings; and famous for its close relationship with the general practitioners of the state.

The pioneering work of Dr. Alcock in the development of transurethral surgery was probably the outstanding development in urological surgery for the period 1930 to 1940. It brought comfort and long life to thousands of patients in Iowa and elsewhere who were suffering from prostatic disease. Wishing to discover the secrets of this technic, urologists from all over the world were attracted to the department.

Dr. Alcock's qualities as a teacher are equal to his abilities as a clinician. His lectures and his bedside teaching are second to none. He prepares his lectures and teaching programs with great care, and they are always masterpieces of lucidity, never failing to put across his points clearly and unequivocally. His ability to bring out unexpected facets from apparently the simplest clinical problem attracted to him a host of students, undergraduate and graduate. He is always dropping unexpected "pearls."

His deep human understanding of both his patients and those about him, combined with his kindness and generosity, endeared him to his patients, his students and his colleagues. This quality also made him understand the fact that the University department, the patients and their home physicians were one and inseparable. The department of urology, therefore, taught not only the medical students, the interns and residents and visitors in the department, but also every doctor whose patient came under its care. Dr. Alcock felt that the care in the department was only a portion of the total care the patient needed, and it was the responsibility of the department to aid the home physician in giving the patient the best of total care.

Now, although his active academic career terminated on Oct. 1, 1949, Dr. Alcock is still practicing urology actively and at the same time spending a tremendous amount of effort, as president of the Iowa State Medical Society and as president of the Mississippi Valley Medical Society, to create those conditions within the medical profession that will make possible the maintenance of the high ideals of medicine. As was said to William Henry Welch at his anniversary dinner in January 1931,

*"But here behold a miracle in sooth
The perfect fruit immune from wind and time
Holds all the vigor of its vernal prime
With autumn's harvest—learning, wisdom, and deep human understand."*

NUTRITIONAL REQUIREMENTS DURING INFANCY

Genevieve Stearns, Ph.D., Iowa City
Department of Pediatrics

College of Medicine, State University of Iowa

Any discussion of the nutritional requirements of infants must begin with the idea so aptly stated by the late Dr. Kirsten Toverud that "the child is 9 months old at birth." Nutritional requirements after birth, therefore, will be conditioned by the nutritional state at birth. It has been shown clearly that infants born of well nourished mothers are superior physically to those whose mothers were poorly fed^{1, 2, 3} and remain superior throughout most of the period of infancy. In a study of growth during infancy it has been recorded that the effect of a given dietary regimen on the linear growth of the young infant does not become manifest until after at least 8 weeks of age; before that time the rate of growth of the baby reflects almost wholly other influences, presumably the mother's nutrition.⁴

The first nutritional requirement of the baby, then, is that his mother receive a nutritionally complete diet during, and also preferably before, pregnancy. Studies of diets of pregnant women show that the poorest dietary habits are found among the very poor and the very rich, also that the large group in between these two categories could be better fed than they are in protein, calcium, vitamin D and probably the B-group vitamins. The last named are usually provided in excess as pharmaceutical products. The same money spent for meat and milk would make the diet more nearly adequate in all essentials. Particularly, the idea prevalent among some mothers that calcium salts are a complete substitute for milk deprives the mother of excellent protein, vitamin A, riboflavin and some thiamine, all at considerable expense to herself.

Energy: The caloric requirements of the baby are relatively high because of the rapid growth during this period, the allowance per pound being only exceeded by men at heavy outdoor work in cold weather. Healthy babies, either breast-fed or artificially fed, will usually take 50 to 52 calories per pound of body weight on the average. This intake is not constant, however; during the first week or two, when the baby's activity is relatively low, the baby will require less food; by the fourth to sixth week the baby will need, and usually take avidly, 55 to 60 calories per pound. Caloric ingestion remains high during the period of most rapid growth and begins to diminish at 4 to 5 months, and by 6 months is about 50 calories per pound. The relative requirement tends

to follow the rate of growth; by the end of the first year 40 to 45 calories per pound satisfy the average need. The need of the individual infant will vary with his activity, the temperature of his surroundings and other factors.^{5, 6}

Oxidation of protein, fat or carbohydrate produces energy. For the infant, protein is needed to produce body tissue. Theoretically, fats and carbohydrates both provide energy. The infant has a limited capacity to oxidize fat, however, so the amount of fat fed is limited, particularly for young, immature and premature infants, and any extra need for calories is made up from carbohydrate foods.

Human and cow's milk have approximately the same caloric value, about 20 calories to the ounce. As cow's milk is usually fed diluted or, if undiluted, in somewhat lesser quantity than human milk, it is customary to add carbohydrate in the amount of 6 to 8 per cent of the total quantity of milk given. After 6 months of age the added sugar of the formula is decreased as other foods are added to the diet.

Water: The water requirement of the young infant is proportionately about three times that of the adult.^{5, 6} The newborn infant has 40 to 45 per cent of his body weight as extracellular or labile fluid, compared to 20 per cent in the adult.²³ In addition, the infant kidney is not fully developed, and the infant is unable to concentrate urine efficiently; a baby excretes about 1 ounce of urine per pound of body weight daily. The rapid breathing of the baby results in higher water loss from the lung. The amount of water lost by sweating will vary rather widely from infant to infant and in the same infant under varying temperature conditions. The average breast-fed baby growing well gets about $3\frac{1}{3}$ ounces of water per pound daily. This amount seems adequate for the artificially fed baby also. Somewhat more is required by all infants in hot weather, and any given amount must be considered only relative.

Protein: The protein requirement will depend on the particular proteins fed, for the true requirement is for amino acids, each of the essential ones in definite, though not precisely known, quantities. To base the supposed requirement for one protein on the requirement for protein from a different source and containing different proportions of essential amino acids is therefore fallacious. The total amino acid content and the relative proportions of each in human milk of good quality provide sufficient protein for good growth and development of the human baby. The same daily intake of proteins from other sources does not permit the same rate of growth and develop-

ment of the human baby. Hence it is sound practice, when the baby cannot be breast fed, to provide a protein intake definitely greater than the baby would receive from his mother's milk. If the protein fed is from a vegetable source, as soybean protein, the percentage of total calories fed as protein is increased still further, for the amino acid mixtures in plant proteins differ considerably from those of animal proteins, and the content of one or more essential amino acids may be low. This feeding of possible excess protein seems quite without danger, for studies have shown that babies have the capacity to digest and absorb more protein than they can ingest as cow's milk. Higher protein feedings seem to increase the average amount of skeletal musculature by about 10 to 15 per cent over that of the breast-fed infant. Such reserve muscle may be looked upon as storage protein in case of illness. Therefore, although the thriving breast-fed infant receives about 1 gm. of protein per pound of body weight, it is customary to allow the artificially fed baby about 1.5 gm. of protein per pound, which can be obtained by allowing $1\frac{1}{2}$ to 2 ounces of cow's milk per pound of body weight. Casein hydrolyzates, used for allergic infants, are fed at a 30 to 35 per cent increase in the level of protein, for the hydrolyzed protein has taken up water in the process of splitting off the amino acids, so the resulting amino acids weigh about one-third more than the original protein. Soybean or other vegetable proteins are fed usually at a 50 per cent increase over cow's milk proteins.

Calcium and Phosphorus: At birth the long bones are almost completely filled with cancellous bone, the marrow cavity developing later.⁷ Many consider that this bone structure is evidence of storage of calcium and phosphorus for use by the infant during the period of most rapid growth. Support is given this theory by the fact that human milk is low in both calcium and phosphorus compared to the milk of most other species of mammals. The proportions of calcium, phosphorus and protein in human milk are delicately balanced so that each is well absorbed and utilized. A healthy breast-fed baby grows and develops well, but, notwithstanding his excellent utilization of the calcium and phosphorus provided, his body becomes progressively poorer, relatively speaking, in bone minerals. Whereas at birth his body was 0.8 per cent calcium, by 3 months of age his body, now larger, has only about 0.65 per cent calcium and does not regain its birth percentage until he is nearly 9 months old, if breastfeeding is continued that long. Such a baby is healthy and does not develop rickets if vitamin D is pro-

vided. The prematurely born infant does not fare so well, as will be discussed subsequently.

Cow's milk contains nearly four times as much calcium and seven times as much phosphorus as an equal amount of human milk.⁶ This large amount is less efficiently used by the baby than the minerals of human milk. When no additional vitamin D is given, 10 per cent or less of the calcium is retained. With 350 units of vitamin D daily, 35 to 40 per cent of the calcium will be retained; additional vitamin D does not increase the degree of utilization. When cow's milk and adequate vitamin D are given, the baby may retain more calcium and phosphorus than he would receive from human breast milk. The excess makes the bones denser and the rate of skeletal growth a bit more rapid than noted in the breast-fed baby. An illness of any sort is usually accompanied by the loss of these minerals from the body, and, as illness is somewhat more frequent in artificially fed infants, the increased mineralization of bone in the artificially fed baby is usually considered in the nature of a safeguard, and it may be stated that the amounts of human and cow's milks which provide ample calories and protein will provide adequate calcium and phosphorus if adequate vitamin D is given to permit its utilization.

Iron: Neither human nor cow's milk provides an adequate source of iron for the infant, though the former is somewhat the better of the two. The chief source of iron for the baby during his first six months is the extra hemoglobin present in the blood at birth, due supposedly to the low oxygen tension in utero. The hemoglobin at birth varies from 13 to 22 gm. per 100 cc., depending largely on the excellence of the mother's nutrition. Later in infancy mean hemoglobin values are variously reported as from 11.5 to 13 gm. per 100 cc. in well nourished infants, so the quantity of hemoglobin broken down may vary from 0 to 10 or more gm. per 100 cc., and its iron stored for later use will be from 0 to 33.5 mg. iron per 100 cc. of blood. The volume of blood of the new infant depends in part on regulable factors. If the cord is not clamped until pulsations cease, the infant receives up to 100 cc. more blood than if the cord is clamped early. It appears probable also that the amount of blood remaining in the placenta depends to some extent on other factors not yet fully determined. If the volume of blood of the newborn is estimated at 300 cc., the maximum amount of iron available from hemoglobin breakdown will be approximately 100 mg.; to this may be added a maximum of about 50 mg. possibly stored in the liver if the mother was in good nutrition. Thus the nutri-

tionally well born baby may have about 150 mg. of iron available in his own body for the manufacture of the new hemoglobin needed as growth proceeds, enough iron to provide another 300 cc. of blood containing 13 gm. hemoglobin per 100 cc.⁸ On the other hand, the infant whose mother was in poor nutrition may have little or no reserve iron and will inevitably develop anemia unless iron is added to the diet.

Folic acid and vitamin B₁₂ are important in relation to the development of anemia. The few data available indicate that human milk contains considerably more folic acid than cow's milk. It remains to be proved whether a relationship exists between the relative folic acid content of the two milks and the fact that breast-fed infants are far less liable to become anemic than are artificially fed infants. No data on comparative B₁₂ content of the two milks are available, but cow's milk is stated to contain only traces.

The infant's hemoglobin usually reaches its minimum value at 2½ to 3 months, after which a slight secondary rise is observed. After 5 or 6 months of age the hemoglobin value reflects the dietary regimen. It appears wise to begin the additions of iron-containing foods at the time when the infant reaches his minimum hemoglobin level. Before that time he is storing the iron from the waste hemoglobin. It is doubtful if much more could be stored. After 2½ to 3 months of age the infant is drawing on these stores; an additional supply conserves them for emergencies.

The common iron-containing foods fed to young infants, egg yolk, green vegetables, provide 1 to 2 mg. daily at most. The sieved meats provide 0.5 to 1.7 mg. to the ounce. Many of the special infant cereals have iron added in amounts providing 2.5 to 4 mg. to the serving of ⅓ ounce.

Iron salts may be added to the formula with impunity if the amount is kept low. Infants receiving no supplementary food source of iron have maintained hemoglobin values of from 11.5 to 13 gm. per 100 cc. when given 5 to 12 mg. of iron either as ferric or ferrous salt. As the latter is the form used in the body, ferric salts must be reduced to the ferrous form in the gastrointestinal tract. In adding iron salts to the diet, 0.5 mg. as iron per pound of body weight can be considered a good prophylactic amount.

Other minerals: Both human and cow's milk fed in amounts sufficient to satisfy protein and caloric requirements will provide ample sodium and potassium chlorides and ample magnesium. Other minerals needed, but in very small amounts, are copper, iodine and possibly fluorine and molyb-

denum. Copper will be provided whenever iron salts are given if these salts are not too highly purified. Peaches, apricots and liver are other good sources of copper.

The iodine content of cow's milk in Iowa is low, as it is generally in glaciated areas. A teaspoonful of fish oil daily will provide 12 to 50 micrograms, ample for the iodine needs of the infant as well as for vitamins A and D. When concentrated forms of these vitamins are given, the iodine intake of the infant may be as low as 5 micrograms (.005 mg.) daily. The requirement for infants is not known, but the adult requirement is usually stated to be 1 to 2 micrograms per pound of body weight. Infants fed cow's milk and receiving no added source of iodine do not show any clinical signs of deficiency, but the subject needs further study.

Ascorbic Acid (Vitamin C): The newborn baby whose mother had an adequate vitamin C intake will have a serum level of about 1 mg. of this vitamin per 100 cc. The level falls rapidly after birth; when the baby is breast fed, the plasma vitamin C of the infant comes back to near its birth level within a few days and remains high thereafter, provided the mother's intake of the vitamin is good. The vitamin C content of human milk depends directly on the mother's intake; in this country it averages about 50 mg. to the quart, permitting an ample intake for the baby.⁶

Cow's milk contains much less vitamin C than human milk and loses a large proportion of its content during the necessary heating processes incident to pasteurization and formula making, so that the infant may receive only 5 to 10 mg. daily from his formula. Thus, if the baby is not breast fed and receives no additional source of vitamin C, the plasma level of the vitamin continues to fall and may be only 0.1 to 0.3 mg. per cc. by the tenth day of life.⁹ If the addition of vitamin C is delayed, as is common practice, until the third week of life, plasma levels are very low, though the baby does not have scurvy. It seems unnecessary to deplete the plasma levels to such degree, for the addition of vitamin C either as orange juice or as the pure vitamin is a simple process and should be started with the feeding, as occurs when the baby is breast fed. A 25 mg. tablet of vitamin C or 1 ounce of orange juice daily (15 mg. of vitamin C) to three months of age and twice these amounts for older infants provide sufficient vitamin C to maintain the plasma content of the vitamin at a good level.

Thiamine: The thiamine content of human milk varies widely, being dependent on the mother's diet; the average value is low, 0.13 mg. to

the quart.⁶ Cow's milk contains 0.38 mg. to the quart, but its thiamine is partially destroyed by heating, so that an infant fed a diluted milk formula may get little more than the breast-fed infant. The minimum requirement is considered to be 0.24 mg. per 1,000 calories, so the average thiamine intake must be considered as barely adequate. Babies of mothers whose thiamine intake was low have been reported to show some evidence of thiamine deficiency.¹⁰ It seems desirable, therefore, that the earliest fed supplementary foods be those contributing thiamine as well as iron to the infant diet.

Riboflavin: The riboflavin content of human milk, like its thiamine content, is widely variable. In this country the mean value is 0.35 mg. per quart. Cow's milk, especially herd milk, is more constant in its riboflavin content, which is high, 1.9 mg. per quart.⁶ Riboflavin is stable to heat, so the riboflavin intake of the artificially fed baby is more than ample. The riboflavin requirement of infants is not known, but it appears to be considerably higher than the adult requirement of 10 micrograms per pound. Symptoms of riboflavin deficiency in infants have not been reported in this country, so presumably the intake from human milk is adequate.

Niacin: The niacin content of human milk is higher than that of cow's milk, 1.7 mg. and 0.8 mg. per quart respectively.⁶ Niacin metabolism is closely tied in with that of tryptophane, an essential amino acid, and the sum of the two substances should probably be considered rather than niacin alone. The tryptophane content of cow's milk is nearly double that of human milk. Few data can be found on the niacin requirement of infants, but it appears that both milks provide adequate amounts of this vitamin when the tryptophane intake is considered or included.

The requirements of the remaining B-group vitamins are as yet completely unknown.

Any moderate excess of water-soluble vitamins (vitamin C and the B-group vitamins) need be of little concern, because all of these substances are readily excreted by the kidney; the feeding of excessive amounts merely adds to the work of the kidney and drains the family purse. The fat-soluble vitamins, A, D and K are in a different category entirely. Once absorbed, these vitamins apparently cannot be excreted without being broken down, which appears to be a slow process. Excessive amounts are stored in the liver; sufficient excess causes toxic symptoms. Therefore, with the fat-soluble vitamins, one must be concerned not only with the question of deficiency but also with the question of overdosage.

Vitamin A: Human milk averages 2,900 international units of vitamin A to the quart, while cow's milk varies seasonally from 1,200 to 2,500 units, averaging throughout the year about 1,700 international units to the quart. There is no question but that human milk supplies ample vitamin A for the infant. Cow's milk of average content or better also provides adequate vitamin A for the infant. When supplemented by egg yolk and green or yellow vegetables, the intake is ample, even though the infant uses carotene, the precursor of vitamin A found in the green and yellow vegetables, inefficiently. If an infant receives milk from a single cow, or in areas where cattle receive too little green food during the winter, cow's milk may provide insufficient vitamin A. Babies receiving fish oil supplements of vitamins A and D receive ample but not toxic amounts. Vitamin supplement mixtures put out by various pharmaceutical houses have proportions of vitamin A and D varying from a ratio of 5 to 10 units of A for each unit of vitamin D. Overenthusiastic administration of vitamin concentrates high in vitamin A has been reported to produce hypervitaminosis A, characterized by increased size of liver and spleen, anemia and bone changes somewhat similar to those of scurvy.¹¹ This type of acute toxicity has occurred after the ingestion of 200,000 units or more of vitamin A daily. Mild or chronic toxicity has not yet been reported. The 2,000 units of vitamin A contained in a teaspoonful of cod liver oil, providing 400 units of vitamin D, has no demonstrable effect on appetite or rate of growth of infants.¹²

Vitamin D: The fact that avitaminosis or hypovitaminosis D causes rickets is too well known to need comment. Considerable confusion still exists, however, about the amounts of vitamin D desirable for prophylaxis. Both human and cow's milk contain small and variable amounts of vitamin D. It has been amply demonstrated that approximately 100 U.S.P. units of vitamin D daily in addition to the milk is sufficient to prevent rickets^{13, 14, 15a} even in prematurely born infants.¹⁶ This amount, however, does not permit as rapid growth nor as good retentions of calcium and phosphorus as the somewhat higher dosage of 300 to 400 U.S.P. units daily.^{13, 16} No further improvement in growth or development is noted from 600 units daily¹⁴ nor from 800 units.¹⁷ At the 1,500 unit daily level growth is slowed to the level attained by the 100 unit groups,^{15b} and at 2,000 or more units daily growth is slower than with no added vitamin D.⁴ These growth rates refer to the entire period of infancy. Rarely is slowing noted until the baby is about 5 or 6

months of age. Then, growth in length may suddenly cease for a period of four to eight weeks, and, when resumed, the rate is significantly slower than average. If growth in length is not recorded regularly, these changes may be missed for several months. Most of these infants show also a sharp falling off of appetite just preceding the slowing of growth. Even this slowing may be mistaken for the normal decline in caloric need. If the slowing is due to excess vitamin D, increase in appetite may not be observed for six to eight weeks after the dosage is lowered. The effect of overdosage wears off slowly, but, when recovery starts, appetite returns and growth is resumed rapidly. We have not followed the effects of these higher dosages longer than nine months. It seems highly possible that the longer excessive intake is continued, the greater the possibility of permanent damage.

The studies of Houet¹⁸ have shown that when vitamin D is given in a single massive dose, although it appears not to be excreted from the body as such, its antirachitic effect is observable for only about three to four months. Considering the danger of acute toxicity and kidney damage from massive dosage, it appears this method of prophylaxis against rickets is not desirable for the average infant.

Vitamin K: All reported evidence tends to show that as soon as feeding is well established the normal infant needs no special supply of vitamin K, for sufficient will be formed from bacterial action in the gastrointestinal tract. The need for this vitamin is greatest during birth and the first few days afterwards, particularly if the mother's diet has been poor in fresh or green foods. Toverud¹⁹ has produced evidence of old resolved hemorrhage in the jaws of stillborn infants, thus demonstrating that hemorrhage is not confined to birth trauma. Vitamin K administration to the mother during the last four to six weeks of pregnancy may be of use in preventing such hemorrhage.²⁰

The Prematurely Born and the Immature Infant

Nearly half of the protein and calcium of the newborn infant is deposited during the last four weeks of gestation.²¹ Calcium is deposited in the fetus at the rate of approximately 300 mg. daily during this period, and protein at the rate of 5 to 6 gm. daily. Human milk contains on the average 320 mg. of calcium and about 2 gm. of protein to the quart. Considering the gastric capacity of the baby born three to four weeks prematurely, it becomes obvious that, although human milk is admirably adapted for the full term

baby, it will be impossible for the prematurely born infant to "catch up" if fed only human milk.^{22, 23} Such an infant will develop rickets despite ample vitamin D, because his rate of growth is too rapid for the amount of bone mineral available.^{22, 24, 25} It is therefore customary to add dry skim milk or calcium caseinate to the human milk fed premature infants.

The prematurely born infant has a high water content, half or more of the body weight being labile or extracellular fluid. Thus this infant is particularly liable to rapid changes in water metabolism and becomes dehydrated or edematous far more quickly than the full-term infant. The kidney of the premature infant is incompletely developed and cannot concentrate urine, so the water requirement is relatively high.²⁴

The prematurely born baby's enzyme systems are incomplete. Oxidation of carbohydrates may not proceed to carbon dioxide and water but stop with the formation of organic acids, as lactic and pyruvic acids. Thus the prematurely born infant may be considered as always mildly acidotic.^{26, 27} Sodium citrate, therefore, is probably a better agent to prevent curdling in feedings for prematurely born infants than is citric or lactic acid. One teaspoonful of 25 per cent solution will probably be sufficient for a quart of milk or 1 grain of powdered citrate to each 2 ounces of milk. Any condition such as diarrhea tending to produce acidosis in full-term infants will cause a more severe acidosis in the prematurely born infant. Certain of the amino acids, particularly phenylalanine, are metabolized with difficulty by prematurely born infants. It has been found²⁸ that the addition to the diet of larger amounts of vitamin C than are needed for scurvy prevention seems to aid in the oxidation of phenylalanine. The possible relationship between overdosage of vitamins and the production of retrolental fibroplasia in prematurely born infants is being studied, but no definite conclusions have been published. Such possibility should be kept in mind until further knowledge is available. The addition of surface active substances (chemical stabilizers) to mixed vitamin concentrates is also a matter of concern as to possible toxicity of these substances, especially for the prematurely born infant.

Summary

The requirement of the full-term infant for calories, protein, calcium and phosphorus, sodium, potassium, water, riboflavin and vitamin A will be met when the breast-fed infant receives 2 to 2½ ounces of milk per pound and the infant fed cow's milk gets 1½ to 2 ounces per pound

of body weight of milk containing 6 to 8 per cent added carbohydrate. The requirements for thiamine and niacin are probably met. Vitamins C and D must be provided, preferably as soon as feeding is instituted; additions of foods containing iron and thiamine are desirable by three months or soon thereafter.

Overdosage with fat-soluble vitamins A and D can and does occur and should be avoided. It has been shown that 400 units of vitamin D daily provides maximum retention of calcium and phosphorus and more rapid rate of growth than amounts much higher or lower than this level. Intakes of 2,000 units daily are mildly toxic. The toxic level of vitamin A is not known but is much higher than that of vitamin D. Nevertheless, acute toxicity has occurred from overdoses. Amounts of vitamin A equivalent to five times the vitamin D dosage may be added to the vitamin A content of the feeding with impunity as far as the effect on growth, development or appetite of infants is concerned.

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FEEDING OF HEALTHY INFANTS

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Nutritional knowledge has increased rapidly in the present century, resulting in many changes in our methods of feeding infants. Artificial feeding has become easy and successful. Except for breast feeding, infant feeding had its beginning wholly on an empirical basis. Foods other than human milk or suitably modified cow's milk have been added to the infant's diet closer and closer to the time of birth in order to meet known nutritional needs.

In recent years the most common problem for which older infants and young children are brought to the pediatrician is anorexia, usually dependent upon faulty training in feeding habits during infancy. The interrelationships which are set up between mother and child during the early days and weeks of life set a pattern which is important for the later development of the child. The mother who nurses her baby establishes at an early date an intimacy with her child which makes future relationships with him easy and natural. This is one of the major advantages of breast feeding, which recently has been stressed by many authorities. Too frequently, a definite volume of food is prescribed by the physician, and the conscientious and solicitous parents endeavor to give this exact quantity of food at each feeding regardless of possible variations of appetite. Rebellion against food most frequently has its beginning in this manner. Self-demand feeding schedules have been advocated to overcome this difficulty, but common sense is required by

the parents in using such a schedule, because too frequently the baby is fed every time he cries, which again leads to faulty feeding habits. In other words, either extreme, too rigid a schedule or no schedule, can easily lead to difficulties. The emotional health of the parents to a great extent determines the likelihood of a feeding problem arising in the infant. This means that there is no simple or uniform manner to avoid these difficulties. Physicians' responsibility in proper feeding of infants includes psychologic treatment of the parents. It is for this reason that frequently a history is obtained of a healthy infant who is not thriving on a nutritionally adequate diet which has had many minor alterations by a conscientious physician. The problem is not the tolerance of the formula by the infant, but rather the adjustment of the parents in taking care of their baby.

Breast Feeding

Since artificial feeding of infants has become so easy and successful, the importance of breast feeding is underestimated and needs to be restressed. Despite all our knowledge of infant nutrition and the current refinements of artificial feeding, feeding at the breast of the mother continues to offer definite advantages, both to the mother and her infant.

Many influences have crept into modern living to sway the mother from breast feeding her child. There are those mothers who have accepted the common practice of artificial feeding as more convenient and adapted to their way of living and many who do not understand and have not had the advantages of breast feeding explained to them. More frequently than is recognized the father is the strong advocate for artificial feeding for many unsound reasons, such as having the false impression that his wife will lose her "Hollywood figure."

The social trend toward hospitalization for childbirth has moved amazingly fast in this country. This hospitalization trend has been accompanied by a substantial decline in breast feeding. In many hospitals the conditions of crowding, lack of trained personnel and inadequate equipment make the possibility of introduction and spread of infection in the newborn nursery a constant danger. This fear of infection and hospital convenience have made present day nurseries overmechanized, and the whole procedure has become artificial. Persons in many professions are rebelling against this artificiality and are asking recognition of normal human desires and instincts during this important period in the life of the parents and the child.

It is obvious during these first weeks of extra-uterine existence that the natural place for the newborn is near the mother. Breast feeding on a self-demand basis is the ideal procedure. Attempts at several hospitals have been made to adapt hospital care to mother and newborn needs. A hospital procedure such as "rooming-in" promotes natural happy relationships, fosters maternal nursing, and the father has a chance to enter the family circle at an earlier time and to become acquainted with the baby. Too frequently, our hospitals are so depersonalized and mechanized that the parents feel acutely that the institution exists for the sake of procedure and personnel rather than for the care of the mother and baby. It is a deplorable commentary that it is taking infection, morbidity and lack of hospital personnel rather than common sense to put babies back with their mothers.

Preparation of the mother for nursing of her baby must start under the direction of her physician early in pregnancy. The prospective mother must be educated to understand the importance of breast feeding. In advising breast feeding, care must be taken not to impress the importance to such a degree that the mother will feel inadequate or blameworthy if it becomes impossible for her to nurse her baby.

Technics of Breast Feeding

The baby should be taken to the mother 8 to 24 hours after birth. The time interval will be dependent upon the response of the infant and the physical condition of the mother. The baby should be taken to the mother by an experienced nurse to avoid the common statement of mothers that "my baby was just given to me and I didn't know what to do with it." The mother should be informed that many babies are drowsy for three to five days after birth, and that the baby will ordinarily not take the breast too eagerly at the outset. The baby should be cuddled comfortably with his cheek against her breast so that if he begins to root about for food, the nipple will be available.

During the first few days the baby should be allowed to nurse at each feeding only a few minutes at each breast. This will help to prevent irritation of the nipples before the milk comes in. The baby should not be poked, prodded, spanked or snapped in order to get him to take the breast. The baby nurses best when he awakens spontaneously.

If the baby demands it or if the environmental temperature is high, the baby may be offered sterile water or sugar solution after suckling at the breast. The mother should be instructed to hold the baby over her shoulder after each nursing

and to pat him on the back vigorously until all swallowed air is dispelled. Each day the physician should reassure the mother and explain to her some of the facts of lactation so that she knows what to expect from day to day. The mother should be told that marked engorgement of the breasts does not necessarily mean copious lactation. In fact, engorgement of the breasts on the fourth to sixth day after delivery is one of the most difficult conditions with which to cope, and there needs to be more study to find a technic to correct this difficulty. The mother repeatedly should be told that the only way known to increase the milk supply is frequent and complete emptying of her breasts. Complemental feedings should not be given until five or six days after birth under ordinary circumstances. Daily we obtain the history from mothers that they discontinued breast feeding on the third or fourth day because they were told that they had insufficient milk for their baby. Weighing the baby in and out and discussing the amount of milk obtained by the baby is one of the ridiculous procedures that has been introduced into nursery care. Accurate daily weight of the infant should suffice.

As time for discharge from the hospital draws near, the mother should be told that the feeding program at home is usually much easier because she will be able to feed the baby every four to three hours depending upon when the baby is hungry, that she will learn quickly the baby's rhythm of feedings and that she should be able to adjust her daily work to the natural rhythm of the baby. It should be stressed that the baby should not be fed every time he cries and that if the baby is hungry before about three hours she should offer him both breasts at each feeding. This may be necessary only at the afternoon and evening feedings. In addition, the mother should be instructed to offer the baby a bottle feeding after nursing him if the baby is hungry before about three hours and she is nursing him on both breasts. The following advice can be given for the supplement: Place 2 ounces of milk, 1 ounce of water and 1 teaspoonful of corn syrup in a clean pan. Heat with constant stirring over a hot flame and boil one minute. Pour and strain the formula into a clean nursing bottle and cool. Use a sterile nipple, and offer the feeding to the baby after nursing. The mother should be cautioned to avoid giving a bottle to replace a breast feeding, especially during the time she is establishing her milk supply.

All mothers should be given instructions as to the fundamentals of a diet which will supply her nutritional needs during lactation. She needs at

least a quart of milk each day. The nursing mother has a much greater need for added vitamins C and D to her diet than does her infant. Too frequently, the baby is given cod liver oil and orange juice and the mother neglects to fortify her own diet.

Artificial Feeding

When an infant is deprived of human milk, cow's milk easily can be modified to meet the infant's nutritional needs. The nutritional requirements of the infant are fairly definitely known, as discussed in the preceding paper. The capacity of the infant to digest different foods also is known. The harmful effects of bacteria introduced by way of the milk as well as methods of rendering the milk free from harmful bacteria also is understood. Recently we have found that well water may be contaminated by surface drainage and contain nitrates in quantities sufficient to cause methemoglobinemia in young infants. Formulas prepared from dried or evaporated milk requiring greater dilution are more likely to cause this condition.

Any formula which is tolerated by the baby and meets the nutritional requirements as outlined will be successful whether it be prepared from fresh, evaporated or dried cow's milk. Raw cow's milk is poorly tolerated by the infant. Boiled, evaporated and dried milk tend to produce small curds in the stomach which are passed from the stomach and acted upon by the digestive juices more quickly than curds from raw cow's milk. Milk properly diluted or acidified is more readily digestible for the same reasons. Skimmed or partly skimmed milk will leave the stomach more quickly than whole milk. The fat of cow's milk contains a larger proportion of volatile fatty acids which are irritants to the gastrointestinal tract. The common procedure of *moderately* diluting boiled milk for feeding the small infant results in a formula readily digestible by healthy infants and easily prepared by the mother. Attempts to render the feeding digestible by dilution may result in the giving of too little protein with poor nutritional results.

Formulas

The amount of fresh cow's milk given the young infant should approximate 1.5 to 2 ounces for each pound of expected body weight. The amount of carbohydrates added should approximate 6 to 8 per cent of the total quantity of milk. The amount of water to be added depends on the degree of dilution required to render the formula readily digestible. It is my preference to use fresh boiled cow's milk with a low fat content for the first few weeks or months after birth and to

compensate for the loss of calories by giving added carbohydrates. If the infant shows any signs of intolerance, the formula can be rendered more digestible by acidification.

Acidified milk is so easily digested that dilution rarely is necessary for feeding even young infants. Mixtures of this type are of special value for the feeding of infants who regurgitate when larger volumes of food are taken. In the preparation of acidified milk approximately 100 drops of lactic acid (U.S.P. 85 per cent) or 1 teaspoonful of a 25 per cent solution of citric acid or 2 teaspoonfuls of 36 per cent acetic acid U.S.P. or 6 teaspoonfuls of lemon juice are sufficient for each quart. The milk should be boiled and then cooled on ice or in chilled water. When the milk is cool, the acid is added slowly with constant stirring. The major objections to acidification are the added time required in the preparation of the formula and the greater likelihood that the holes in the nipple may become plugged by the formation of fine curds. After infants weigh approximately 10 pounds the likelihood of their not tolerating an evaporated milk formula is negligible. Consequently, at this time it is my preference to change to a diluted evaporated milk type of feeding and to decrease gradually the dilution and carbohydrate content of the formula as tolerance increases and solid foods are introduced into the diet.

In choosing a carbohydrate for the formula one has to consider the ease of digestion and absorption, the degree to which the carbohydrate is fermented in the intestinal tract and the degree to which it irritates the intestine. The maltose-dextrin mixtures and corn syrup are the two products most commonly used in this area, and either is tolerated well by the healthy infant. The majority of mothers prefer a dry form of carbohydrate because it is easier to handle.

The average young infant at a single feeding will take 2 to 3 ounces more than his age in months. The number of feedings in a 24 hour period will gradually decrease as the infant's capacity for food increases. Young infants usually will demand seven or six feedings each 24 hours. As with the breast-fed infant, it is wise to allow the baby to take as much as he demands every four to three hours and caution the mother never to force the baby to take the formula or to expect him to take the same amount at each feeding.

Technic of Artificial Feeding

Most babies like the formula at approximately body temperature. The best method for the mother to test this is to shake a few drops onto

the inside of her wrist. The mother should be advised to sit in a comfortable chair and hold the baby cradled in her arms. Care should be taken to keep the bottle tilted up so the nipple is always full in order to avoid the baby's swallowing air. The feeding should always be discontinued when the baby stops nursing and seems satisfied. One of the most common difficulties in artificial feeding is making the nipple holes the right size. The holes in the nipple should be of such size as to allow the milk to drop rapidly without shaking the bottle but not to flow in a stream. If the nipple holes are too small, the baby will become tired and harassed during the feeding. If the nipple holes are too large, the infant may choke and vomit the feeding; it is also possible that the infant's sucking may not be satisfied, and after feeding there will be more likelihood of thumb sucking.

The most common problem arising from bottle feeding is that the mother can see how much formula is left in the bottle and is unduly concerned about it. It cannot be overemphasized that the baby should be allowed to take what he wants and never be fed by force. As was previously pointed out, the most common pediatric problem today is anorexia. This problem arises in a majority of cases when the mother has been trying to get her baby to eat more than he wants. Feeding problems also may arise by too rapidly decreasing the number of bottle feedings in the 24 hour period so that the infant's appetite is satisfied by infrequent large bottle feedings, and consequently he has little or no desire to begin taking solid foods.

Supplements

Supplements to the milk diet of the infant have been discussed from the standpoint of nutritional requirements in the preceding section. Milk from a healthy mother who has had a good diet meets all the nutritional needs of her infant in the early months of life with the exception of vitamin D. Four hundred units of vitamin D are advocated for the breast-fed infant each day. During the early weeks after birth I prefer to give the baby a concentrated vitamin D preparation which can be administered as drops into the baby's mouth. The mother must be cautioned to use only the number of drops prescribed, as there is a tendency for them to believe that if a little is good, more would be better. As soon as the mother is secure with her infant, I advise that she gradually replace the concentrated vitamin D preparation with plain cod liver oil, beginning with a small amount and gradually increasing to a teaspoonful a day. The baby will learn quickly to suck it off the tip of a spoon.

The infant fed human milk does not need added vitamin C as early as the artificially fed infant provided the mother's diet has a liberal supply of vitamin C. However, vitamin C is a harmless safeguard for the breast-fed infant, and it is good pediatric practice to give the infant small supplements of orange juice beginning in the early months after birth. When the breast-fed infant is beginning to sleep from 10:00 or 11:00 p.m. to 4:00 or 5:00 a.m., a small supplement of orange juice can be offered the infant when he awakens at 7:00 or 8:00 a.m. and make it possible for the mother to give the next breast feeding at 9:00 or 10:00 a.m. This plan may be advantageous for the mother in adjusting her daily schedule.

Solid foods should be introduced to the infant in the third or fourth month after birth. Egg yolk in the form of a soft custard provides a suitable preparation for this purpose. If there is a definite family history of allergy, it may be advisable to defer giving an egg yolk until a later date. Sieved meats especially prepared for babies can be substituted for the egg yolk. There is an advantage in giving sieved vegetables and fruits early to provide variety in flavor and texture. The most important advice to give the mother is that the baby probably will show little desire for new foods the first few times they are offered. She should allow the baby to become accustomed to the taste and texture and constantly remind herself that the baby is learning a great deal in a short time. The amount of food should be gradually increased and she should be more concerned that the baby is learning to enjoy eating rather than being concerned that he takes a given amount of food at a specified time.

Although nutritional knowledge has increased rapidly, there is evidence that our present knowledge is incomplete. Nutritional essentials now unknown undoubtedly exist. It is reasonable to believe that they are more likely to be obtained from a mixed diet than from one more restricted. Varieties of fruits, vegetables and meats would seem to offer better opportunity for a mixed assortment of food sources than the more limited varieties of cereals used in infant feeding. As previously mentioned, a wide variety of flavors seems desirable; a greater variety is offered by fruits and vegetables than by cereals. Cereal feedings should not be large nor be offered more than once a day.

As the baby becomes older, it is desirable gradually to offer the solid foods in a coarser form. At least some of the fruits and vegetables offered should be mashed or chopped after the sixth or seventh month following birth. At approximately five months of age the baby also should

be offered some of his milk from a small glass or cup, and weaning should proceed gradually over a long period of time. The continuance of bottle feeding after the first year under ordinary circumstances is not good feeding practice.

Growth rates of babies recorded over the past 25 years show a gradual and definite increase. The increased growth rates are largely attributable to improved nutrition. Although the nutrition of infants has improved rapidly in recent years, it is clear that it has not improved to the extent desirable or possible with present knowledge. Psychologic problems are more common today than those more strictly nutritional. The objective of this paper is to present methods for feeding infants to insure good nutrition and prevent feeding problems and to restress the importance of breast feeding.

EMOTIONAL ASPECTS OF INFANT FEEDING

A Cultural Perspective

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A backward glance at conditions of living 80 years ago, at the beginning of the impact of the Industrial Revolution upon our culture, will be helpful in attempting to understand some of the emotional aspects of infant feeding.

At that time homes were relatively bare of furniture. Toilet facilities as we now know them were uncommon. Most of the population lived in rural areas and geared their lives to the tempo of nature, rising at dawn and retiring soon after dark. Cultural groups still maintained their traditions; transportation and communication was limited, and the consequent isolation made this possible.

Infants who lived were breast-fed when they were hungry and in answer to their individual demands for food. Little stress was laid on bowel training, for the populace was quite accustomed to the ubiquitous fecal odors of man and animal. Families were large, and it was uncommon for children to lack playmates. Meal-times were attended by large family groups, and it was less likely that any one child would come in for more than his share of food, parental attention or hostility. Although by modern standards the infant was nursed too long and given a diet inadequate in many essentials now known to be important, his parents felt relatively more secure in the belief that his appetite was a good enough indication of how much he should eat. When the infant grew into early childhood, he

was more strictly dealt with. Childish exhibitionism and assertiveness were squelched. He was expected to be seen and not heard. Fathers were the autocratic rulers of the family, and mothers accepted their subjugation with little conflict or question.

In the intervening years sweeping cultural changes have occurred. The products of the Machine Age have filled homes with all manner of expensive furnishings for convenience and enjoyment. People have migrated to urban centers and have of necessity paced themselves with factory whistles and transportation schedules. Urbanization, rapid easy transit and communication have catalyzed the process of cultural diffusion in the Melting Pot, stripping people of their ancient traditions and folkways. Methods of child rearing have become less dependent upon cultural wisdom. Infant and child mortality has diminished remarkably, and the physician's leadership has been followed more and more compulsively by grateful but perplexed parents. People have become excessively dirt conscious and revolted by excrements. The family has become smaller, and children more frequently attain school age with little or no experience in play groups with their peers. With the advent of woman's emancipation her role in our culture has changed. By working and postponing marriage, she can acquire more material wealth, comfort and physical adornment for herself. She has become increasingly capable of competing with men in industry and business and as a consequence is less dependent upon her family or her husband. The father is no longer the unchallenged autocrat in the home; the child is given a greater choice as to which authority he will obey. Since motherhood is no longer the main avenue of emotional fulfillment for women, many look enviously at their sisters' more expensive clothes and attractive careers and tend to reject the responsibilities imposed by child bearing. The progressive education movement has tended to soften the attitudes of adults toward their children when they arrive at the exhibitionistic and assertive ages. Since there are fewer children in families, they have become relatively more indulged at this stage in their development. There is less competition with their peer siblings and a greater struggle to monopolize parental time and attention at meals.

It should be apparent that these swift and profound cultural changes would inevitably be accompanied by equally profound differences in the personality characteristics and reaction patterns of the children and adults making up our society. Some examples will help to clarify this point.

The generation that felt most thoroughly the

impact of this cultural upheaval with its consequent altered philosophy of infant and child rearing participated in the second World War. The kind of psychiatric casualties encountered varied markedly from those experienced during the first World War. In 1914-1918 hysteria and its accompanying personality attributes was much more frequently seen than during the second world conflict. In the latter period psychosomatic disorders, especially involving the gastrointestinal tract and occurring in compulsive personality types, were much more common.

Psychosomatic diseases are believed to be occurring with increasing frequency in Western civilization. Peptic ulcer, for example, occurred twice as frequently in women as in men in Britain in 1900, but in 1930 it occurred four times as often in men as in women, and the peak incidence of its occurrence had shifted in men from 55 to 35 years of age.¹ It is doubtful that specific drug (e.g. tobacco), dietary or constitutional factors can account entirely for this change; it seems more likely that cultural evolution with its consequent alterations in interpersonal relationships, family structure and personality attributes may offer an explanation.

Since the basic foundations of adult personality structure and function are believed to be laid down in infancy and childhood, it will be well to examine these cultural changes to see what fundamental differences in child rearing evolved. What seems to have happened during the last 80 to 100 years is that the preschool child was permitted more freedom of expression by the assumption of a more yielding parental attitude. Self assertion was looked upon with approval to the extent that not infrequently childish tyranny reigned in the household. No longer was it tacitly assumed that the child owed the parent everything; rather, parents were enjoined at every turn to consider the debt they owed to their children. But concurrent with this trend there developed a harsher and less yielding attitude toward the infant and very young child. One important way in which this attitude found expression was through increasingly greater degrees of premature separation of the infant from the mother, physically in space and time and consequently also emotionally, i.e. estrangement.

The clinical application of bacteriology rendered adults fearful of communicating dreaded diseases to the young; hence the infant was isolated from the mother after its delivery in the hospital. Artificial feedings became safe and practicable but were prescribed by physicians according to rather rigid dosage methods. Breast feeding became uncommon. The physical close-

ness of infant and mother was discouraged by mechanized means, the perambulator. The infant had less and less chance to gradually become accustomed to extrauterine existence via the physical reassurance communicated by the support of the mother's embracing arms and the rhythmic sway of her body as she strolled to market or visited her neighbor. The play pen was invented to insure impersonal separation and to protect valuable nicknacks from the inquisitive toddler's fingers. As families became smaller, fewer girls grew up accustomed to imitating competent mothering. To increasing numbers of women, having a baby was a completely novel and threatening experience. To them, their first-born babies were truly "little strangers."

All these examples are cited to suggest that in countless ways cultural trends have conspired to rupture emotional bonds and create misunderstanding between infant and mother. These changes are bound to result in varying degrees of vegetative disturbances in the infant. Such disturbances are expressed by the infant in the primitive language of his physical functions.

One more example will help to clarify this point and serve to suggest that infant-mother separations or estrangements may occur in all conceivable degrees, from minor to the most extreme, and that the infant's reaction to the varying degrees of threat to his dependent security is manifested by equally varied degrees of vegetative dysfunction. Since the infant's most basic and primitive way of relating emotionally and communicating socially is by way of his digestive and respiratory tracts (eating, vocalizing and crying), we would expect these symptoms to reflect the consequences of such emotional stress with outstanding clarity.

An excellent description of this situation is given by Spitz.² He observed mothers in a penal institution who, because of extreme emotional deprivation brought about by the barren circumstances of prison life, turned to their babies with pathologic intensity and produced an abnormally strong and exclusive dependence of the infants upon themselves. Several of these babies when they were abruptly separated from their mothers during the latter half of their first year developed a severe personality alteration characterized by apathy, tearfulness, whining, developmental retardation, apprehensiveness, seclusiveness, loss of appetite, refusal to eat, loss of weight, constipation and insomnia. Their condition failed to improve or grew worse despite all efforts to engage them in intimate social relationship with other adults, but they immediately returned to

their normal selves when reunited with their mothers.

This example of a truly psychosomatic disorder in young infants serves to magnify the psychic or emotional aspects of the feeding situation and forces us to realize that these factors have not been given adequate consideration. The success of scientific methodology with its emphasis on a mechanical and technical approach to human problems fostered a temporary but ruthless neglect of common sense.

Fortunately, this was not a universal cultural trend. Clara Davis,³ in a series of experiments, dared to permit newly weaned infants to express choices freely in the selection of their own diets. Trays of simple natural foods were presented to babies, and they were allowed to regulate their own intake of food as to amount and kind. Every effort was made to avoid communicating attitudes to the babies that would influence their selection in any way. As early as possible the babies were permitted to feed themselves. The menus they chose for themselves would seem most peculiar and unappetizing to our sophisticated palates, but the babies did demonstrate an astounding propensity for working out a diet that over a period of days was complete in the best nutritional sense. Their growth and general health was excellent. Certain trends in their pattern of choices suggested strongly that they were responding to some primitive, instinctual, regulating forces that demanded satiation, even if it was momentarily uncomfortable for the baby. They ate salt by the fistful when they required it, grimacing and spluttering all the while. When they caught cold, they seemingly automatically chose the less appetizing but more digestible lactic acid milk. No anorexia or feeding problems developed.

These observations strongly suggest that the normal human infant is equipped with a complex and highly effective set of genetically acquired behavioral predispositions that will enable him, granted cooperation from his mother or at least freedom from her anxious interference, to make choices adequate and safe for him.

All of the foregoing obligates us to consider more thoroughly the social and emotional aspects of infant care.

It is obvious that the mother-infant relationship constitutes the fundamental social unit. All social intercourse, regardless of its complexity, involves giving and receiving. To the infant's dim perception the social world is his mother, and in a real sense he incorporates her via all his sense modalities. But the most significant aspects of this early human relationship are or-

ganized around the nursing situation. With every swallow of milk the infant is taking in a primitive idea of the nature of the world. With every internal and external discomfort that arises to produce anxiety he is learning about what to expect from society. Will his needs be anticipated and his wants understood without his suffering undue discomfort and unhappiness? Or will his mother's ministrations convey to him in countless ways the idea that he is a perplexing automaton that must learn to solve the complex problems of living in social and emotional isolation? Each new capacity for coping with his environment constitutes a complicated problem in social learning. He is equipped from the start for passive reception, but he also begins to give in an intangible way when he rewards his mother with a smile of recognition or an exuberant chorle of delight. If he has learned to anticipate unqualified acceptance and gratification of his instinctual needs, he has also learned about giving and is well prepared to cooperate socially in yielding up his possessions in later infancy. Feeling sure he will not be hurt, abandoned, coerced or starved, he dares to solve the problems of giving, implicit in learning sphincter control. If his attempts are met with approval, he is further reassured that he is wholesome and lovable. He learns to cooperate in a social situation without undue suspicion or anxiety.

Feeding problems as we know them in infancy and the psychosomatic disorders involving the gastrointestinal tract in children and adults are almost unknown among the Okinawans.⁴ The most obvious difference in child rearing that is noticed by the observer from our culture is the indulgent and permissive attitude conveyed to the infant by the everpresent mother who keeps her babe in close physical contact or within constant view. Such also was the prevailing trend in our culture before the social upheaval of the Industrial Revolution.

The physician by nature of his tradition and role is the one best suited in our culture to understand the biologic nature of man. His position is and always has been unique. He can, by virtue of the knowledge, responsibility and trust invested in him, come more and more to be the interpreter of the child's needs and the wise counselor for the distressed and perplexed parent.

As he begins again to attend to the emotional and social aspects of the lives of his patients, he will be able to draw on the wisdom of the ages and combine it with the scientific facts of the modern era and thus gradually set in operation restorative processes at the cultural as well as at the family and personal level. The advantages of

hospital care for mother can be combined with many of the advantages of home delivery by an extension of the "rooming in" plan. Parents can be helped to enjoy their babies by lending them reassurance and emotional support so that the mutual needs of infant and mother are so well satisfied that mothers will gradually be less inclined to flee from the responsibilities of their biologic role in their social behavior. Parents can be encouraged to trust more completely the innate wisdom of the infant and growing child and can be helped to understand the laws of growth and the significance of the preverbal communications of the infant that bespeak anxiety, depression, suspicion and resentment.

The physician will of necessity begin to look for the causes of unhappiness in the lives of his infant "feeding problems" as often as he surveys the details of the diet.

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INFANT FEEDING IN ACUTE ILLNESS

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An increase in scientific knowledge has occurred in recent years relative to certain physiologic alterations which occur during the course of acute illness in children. Likewise, means by which improved functioning of vital processes may be accomplished have developed from this knowledge. Proper dietary management of a child who has an illness which is of short duration and relatively severe in character has been found to be of importance in shortening and making more effective the recovery process of such a patient.

To undertake intelligent dietary management of a child with an acute illness one must have some basic concept of certain physiologic processes which are altered by that illness. These processes differ depending upon the age of the child, his

status of health prior to the illness, the nature of his illness and the type of medication being used to combat his primary condition.

Our present knowledge of physiologic changes occurring during acute illnesses is rather limited. Febrile illnesses are known to elevate the basal metabolism at the rate of 13 per cent for each degree of fever.¹ In other words, 3 degrees of fever in a patient is accompanied by a metabolic increase of 30 to 60 per cent. Digestive processes are usually much less efficient. Inadequate oxidation within the tissues results from toxic states.² Inadequate enzyme activity, particularly intracellular, is susceptible to environmental changes such as may result from minute changes in the pH of circulating body fluids and other factors. Vomiting and diarrhea, either singly or combined, are often caused by parenteral infections and may lead to undesirable changes in the biochemical balance of the body. The mechanism by means of which most of these alterations are produced is not understood thoroughly. Other changes in physiologic processes which are less well known and are of importance probably occur in the course of an acute illness.

Feeding during an acute illness, then, must have several objectives. Attempts to maintain an optimum fluid and electrolyte balance are imperative. A caloric intake sufficient to meet the increased metabolism occurring in the febrile illness and from impaired oxidation within the tissues in toxic states is important. Provision of as many of the essential dietary ingredients as possible, including supplementary vitamins to avoid depletion of body stores and to enhance recovery, is desired. The giving of all of these substances in a form which will assure maximum utilization and minimal disturbance to the patient must be given prime consideration.

Fluid

The vital importance of water in nutrition as a conveyant of nutritive elements to body cells, a vehicle to transport waste products of metabolism, and as a medium in which all intracellular chemical changes take place is well known. Furthermore, its role in body heat regulation, whereby fluid is evaporated through the lungs and skin, cannot be minimized. Under normal conditions the source of body fluid is from ingestion and chemical reactions of metabolism within the body. Water leaves the body through the kidneys, bowels, lungs and skin. A fairly accurate balance is maintained between fluid intake and output under conditions of health.

The daily fluid requirements for the child under conditions of health have been presented in a

previous section. Those requirements apply to the child with an acute illness, with the exception that a slightly greater amount may be desired in the presence of fever or other clinical manifestations which may have a dehydrating effect on the body. However, it should be remembered that serious toxic effects may result from the intake of excessive amounts of fluid. Therefore, particularly when parenteral administration is used, the amount of fluid intake should be calculated and a recording of the daily intake maintained.

The normal fluid exchange may become disrupted deleteriously and rapidly during an acute illness. This is true particularly in the infant or young child and especially so when vomiting or diarrhea occurs and when fever is present. Frequent oral ingestion of small amounts of fluid may result in the intake of the desired volume. Since tea is often retained more easily than water, it may be given in a diluted form frequently and advantageously in illnesses when vomiting is associated. The use of crushed ice for oral ingestion is not undesirable but may result in suboptimal intake when relied upon entirely as the source for fluid intake. Fluid administration by proctoclysis may be useful when only small amounts must be given other than orally. Leakage and difficulty in maintaining the colon tube in place, however, are disadvantages which are encountered.

It is impossible to maintain sufficient fluid intake from oral ingestion alone in many acute illnesses, depending upon their severity and accompanying manifestations. Parenteral injection of the fluid must be resorted to in those instances. The route of administration may be intravenous, subcutaneous or intraperitoneal. The choice of the fluids to be given may be determined by adjunctive needs of the patient. Physiologic salt or dextrose solution is the desired fluid in most instances when the providing of fluid is the major objective. Dextrose in 5 per cent solution may be given subcutaneously or intraperitoneally without adverse effects. Slightly hypertonic dextrose solutions may be given intravenously to advantage when supplementary caloric intake is desired. Hydrolyzed protein in solution for parenteral use may prove beneficial when additional protein as well as fluid is needed by the patient.

Electrolytes

The maintenance of proper electrolyte balance becomes important in certain children when the acute illness is severe and vomiting and diarrhea are associated symptoms. This may be of major concern in the infant whose electrolyte balance is less stable and is altered more easily under con-

ditions of a severe illness. Dehydration, alkalosis, acidosis or ketosis may be associated results from these alterations, and when such disturbances develop, they may impair severely the child's recuperative powers from his acute illness. Both vomiting and diarrhea may lead to dehydration, vomiting alone to alkalosis, and diarrhea to acidosis or ketosis. Ketosis occurs whenever fat is being utilized for energy at a rate greater than the body can oxidize completely. Infants oxidize fats at a much slower rate and are more prone to develop ketosis in the course of an acute illness than is the older child. The management of these symptoms is discussed concisely in the book *Infant Nutrition* by Jeans and Marriott.³ Table 1 is reproduced from this source.

Food

Calories: It must be emphasized that there is a need for more than the usual caloric intake as the result of increased metabolism caused by fever or infection in a child with an acute illness. If the patient's caloric intake is not increased under such circumstances, and decreased activity occasioned by the illness is not sufficient to offset the increased caloric needs, body metabolism utilizes available stores of protein, carbohydrate and fat

until they are depleted, after which there is a breakdown of body tissues in an attempt to meet the demands. The problem is complicated further by impaired digestion caused by the acute illness. Of importance to the acutely ill child, then, is the giving of nutritive substances which have high caloric values, are digested easily and are utilized readily by the body.

Carbohydrate: Dextrose is the most important ingredient which meets such criteria. In view of the fact that it needs no digestion it is the most rapidly utilized of all foods, and its use is desired further as a sparer of protein. Thus the giving of fruit juices, sugar stick candy, dextrose containing fluids and other forms of carbohydrate has great advantages for use in feeding during an acute illness. Usually, such therapy is accepted delightfully by the young patient. Fruit sauces which are high in their carbohydrate content should be urged.

Proteins: Protein substances are of only slightly less importance than dextrose to the acutely ill child. His needs under conditions of normal health are greater than the adult by two or three times per unit weight. Infection increases body metabolism and particularly protein metabolism.

Table 1—Fluids for Parenteral Use

Fluid	Quantity Maximum	Route	Rate	Indications
Saline (0.85%) or Ringer's sol.	35 ml./kg.	Subcutaneous	As fast as absorbed	Dehydration, acidosis, alkalosis.
	15 ml./lb.	Intravenous Bone marrow	1-2 ml./min.	
		Continuous venoclysis	4 ml./kg./hr.	
		Intraperitoneal	Rapidly	
M/6 sodium lactate in water, Ringer's or saline or Hartmann's sol.	2 ml./kg. or 1 ml./lb. for each volume per cent rise needed	Intravenous Subcutaneous	As for saline	Acidosis, dehydration.
Sodium bicarbonate 4%	0.5 ml./kg. for each volume per cent rise needed	Intravenous only		Severe acidosis with CO ₂ less than 20 volumes per cent.
Darrow's sodium-potassium- chloride-lactatesol	80 ml./kg. or 36 ml./ lb. in 24 hrs.	Subcutaneous Intravenous	7-10 ml./kg./hr.	Severe diarrhea Renal function must be adequate.
Dextrose 5% in water or mixed with equal parts of saline or Ringer's sol.	35 ml./kg. 15 ml./lb.	Intravenous Bone marrow	1-2 ml./min.	Ketosis, dehydration, in- travenous feeding.
		Continuous venoclysis	1-2 ml./hr.	
Blood	20-30 ml./kg. 10-13 ml./lb.	Intravenous Bone marrow	1-2 ml./min.	Anemia, malnutrition, shock.
Plasma	As for blood	As for blood	As for blood	Hypoproteinemia, shock, malnutrition.
Amino acid 5% in 5% glucose	20 ml./kg. 10 ml./lb.	Intravenous Subcutaneous	1-2 ml./min.	Parenteral feeding.

Insufficient caloric intake may result in depletion of reserve protein stores and the breakdown of protein in body tissue in the process of producing readily utilizable glycogen when depletion has occurred. It has been mentioned previously that digestive processes are impaired in the course of many acute illnesses. Thus the acutely ill child is in need of protein intake of high biologic value which is as great or greater in amount than the normal requirements and which can be digested as easily as possible. The dangers of inadequate digestion are those of possibly creating a digestive disturbance which did not exist prior to the illness and the production of a specific food allergy due to insufficient protein breakdown during the process of digestion.

The protein foods having the highest biologic value are milk and meats. The giving of milk to the sick child has added value in that some of the fluid requirements can be met by its use. Usually, less objection in taking milk is encountered from the young acutely ill patient than results from attempts to offer meats. Breast feeding should be continued if at all possible in the infant who has been receiving breast feeding and who develops an acute illness. Bearing in mind that digestive functions may be impaired during an acute illness, cow's milk can be made more easily digestible in several ways. Removal of the cream content reduces the likelihood of digestive disturbances developing from its use and does not lessen its value as a protein food. Boiling, possibly from 5 to 10 minutes, increases its digestibility and reduces any allergenic propensities that might result from inadequate digestion of the protein molecule which may occur in the acutely ill child. The giving of acid milks has similar advantages and may be accomplished by the use of buttermilk or acidification of sweet milk with lemon juice or acids used commonly for such purposes.

Parenteral administration of proteins can be accomplished with relative ease when the severity of the illness or other factors demand it. Blood transfusions are of greatest usefulness in this regard in addition to other beneficial effects which such may have in the course of the acute illness. The desirability for the use of transfusions is even greater when anemia accompanies the acute illness. Hydrolyzed protein solutions for parenteral administration may be useful for supplementing the daily protein intake.

Eggs, although of a relatively high biologic value, are usually less well tolerated if the illness is severe. A question exists as to their digestibility in the raw compared to the cooked state and is somewhat controversial.^{4,5} Apparently egg

digestibility is increased when it is beaten or mixed with milk. The possibilities of egg sensitivity developing during the course of an acute illness must be considered when the use of eggs is contemplated in view of the high allergenic properties which eggs have and the impairment of digestive processes which is not unexpected in the child with an acute illness. These objections to the use of eggs would seem to be lessened when eggs are used for a patient whose illness is not severe, when the eggs are cooked and mixed with milk or other foods, and when there is no digestive disturbance accompanying the illness. Strained meats which have been prepared especially for the feeding of normal infants and which have been shown to be easily digestible may be used advantageously for older children during acute illnesses. Each may be served as found in their container, mixed with milk or used as a spread.

Fats: Some of the recognized characteristics of fat digestion and utilization are important in the consideration of feeding the acutely ill child. Excessive amounts of fats are tolerated less well in the infant and young child under conditions of health than are carbohydrates and proteins. This intolerance may be accentuated in the child during the time of an illness. It is well known that fats leave the stomach much more slowly than other foodstuffs. Oxidation of fats in the tissues does not have a protein-sparing action as does the oxidation of carbohydrates. The utilization of fat in the body tissues is not as readily accomplished as it is for carbohydrate and protein. These factors prompt one to attempt to minimize the fat intake in an acutely ill child rather than to urge its ingestion. Deleterious effects to the body by suboptimal intake of fats during an acute illness are not expected to occur when one assumes that the acute illness is of only short duration. Thus it seems important to remove cream from milk which may be given and to offer a fat-reduced diet in other respects as nearly as possible.

Vitamins: It seems apparent that there is no specific therapeutic value to increased vitamin intake for any person unless a deficiency exists. However, it must be realized that some disease processes increase the requirements for certain vitamins. For example, bacterial invasion enhances the need for vitamins A and C. Likewise, fever and other conditions causing physiologic strain are known to increase tremendously the body's need of vitamin B₁.

It is known that certain vitamins are not retained long in body storage depots, and that storage depots deplete rapidly when the diet is deficient during conditions of health. This is the

situation present in regard to vitamins B₁, C and K. Storage of some vitamins is limited primarily to a single body organ, and when impaired function occurs in that organ, a reduction in the storage of that vitamin is the result. Reduced storage of vitamin A in the liver under conditions of liver disease exemplifies this situation. Daniels and Everson have shown that excretion of vitamin C is increased when acetylsalicylic acid is given to children.⁶ The wide usage of acetylsalicylic acid as an adjunct in the usual treatment of acute illnesses in children is well known. These instances are cited to demonstrate the ease and rapidity with which vitamin deficiency may occur in the course of an acute illness, thereby hindering a patient's recovery, and yet typical findings of the deficiency may not be obvious.

Brief mention of some of the functions of certain vitamins suggests readily the effect a deficiency may have in an acutely ill child. Vitamin A is essential for maintenance of the integrity of the epithelial tissues as well as having other functions.⁷ Several of the vitamin-D group are essential aids in cell respiration and oxidation within the cell.^{8, 9, 10} Vitamin C assumes a regulatory function with respect to the colloidal condition of intercellular substances as a part of its work.¹¹ Citrin (vitamin P) is related to capillary resistance and permeability.¹² The formation of prothrombin is dependent upon the availability of vitamin K,¹³ in the absence of which hemorrhage may result.

It is apparent that a child's recovery from many of the acute illnesses which he might have is dependent at least to some extent upon efficient accomplishment of vitamin functions, some of which have just been presented.

It is difficult to know if a given child's vitamin storage depots are filled adequately enough to withstand an increased demand resulting from an acute illness. In a large measure this storage reserve is dependent upon a previously adequate nutritional intake. A wide margin of safety exists relative to toxic effects between the intake of vitamins in amounts established as minimum optimum requirements and those amounts considered to be excessive, especially if excessive intake is not of long duration. Thus it seems imperative that as complete a daily vitamin intake as possible be provided for the child during the course of any acute illness.

An adequate dietary intake of essential foods each day is expected to supply the recommended allowance of all vitamins, with the possible exception of vitamin D which must be provided in supplemental form or by means of fortified foods, under conditions of health.¹⁴ In the presence of

an acute illness in a child when the intake of the complete essential dietary ingredients may be lessened and when digestive functioning and utilization of the intake may be altered, it seems imperative that all vitamins be given in supplementary form according to doses established by the Food and Nutrition Board of the National Research Council as recommended daily allowances or in slightly greater amounts.

In addition to other vitamins which may be provided supplementarily in oral forms, the need for supplemental vitamin K must be emphasized. Regardless of what the acute illness may be, in the presence of a relatively prolonged acute illness attention to the need in this regard is of great importance as a means of preventing an associated, damaging hemorrhage. This is particularly true in the infant when the intake by mouth may be insufficient as it pertains to foods containing this vitamin and particularly also when there is an associated intestinal disturbance.¹⁵

Bone Minerals: In the presence of a large fluid loss from the body, as may occur when vomiting or diarrhea are associated, body electrolytes (minerals) will be lost with the fluid. These electrolytes must be restored as well as the fluid. Means by which this correction can be accomplished are listed in Table 1.

Usually, little attention needs to be given to the bone mineral intake during the course of an acute illness. This is of general application in view of (1) the wide variety of foods containing the essential minerals, intake of which is assumed to have been accomplished prior to the acute illness, (2) the fairly adequate storage depots in the body, the supply of which is expected to meet the demands occurring during the course of an acute illness when suboptimal intake of some minerals may be the result, and (3) when one realizes that utilization of these minerals in the body is not obviously a rapid and urgent process. The action of bone minerals, according to our present knowledge, is to function as one link in a chain of reactions in various aspects which are vital but which action can be accomplished by use of available body stores during an unprolonged acute illness and possibly with a suboptimal intake for a temporary period of time.

Summary

Greater attention to the nutritional management of an infant with an acute illness is expected to be productive of more rapid recovery and improved general condition subsequently. Special consideration must be given to the infant's requirements for fluids, electrolytes, caloric intake, carbohydrates, proteins and vitamins for maxi-

num results. An attempt should be made to provide these necessary nutrient substances in forms which will be utilized as efficiently as possible and in ways which will be the least disturbing to the patient.

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THE NUTRITIONAL MANAGEMENT OF SOME COMMON INTESTINAL DISORDERS

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Successful artificial feeding of infants has been perfected during the lifetime of many living physicians. A great amount of information concerning the infant, his physiology and his development has been organized during this period.

The infant grows so rapidly that his nutritional needs are unique. These unique nutritional needs are accompanied by a decreased tolerance to artificial feedings. Many of the difficulties that infants encounter during early life are related to these factors. Through the use of nutritional management many of these problems may be satisfactorily treated.

The Nutritional Management of Diarrhea

Diarrhea is one of the most common ailments that cause parents to bring their babies to the doctor. To be able to treat diarrhea of infancy wisely, it is necessary to understand the different factors that may be its cause. A physician would not accept the responsibility of treating a child with anemia unless he understood the possible factors leading to the cause of anemia. In contrast,

he treats infant diarrhea with little thought concerning an understanding of the causative factors of diarrhea.

The causes of diarrhea and the resultant pathologic physiology are discussed under the following topics:

Gastric Dysfunction in Diarrhea: The gastric secretions of the infant are adapted to the digestion of maternal milk. The secretions of the digestive juices are quantitatively small. The small amount of hydrochloric acid is of particular importance. Cow's milk has a greater buffer system than does human milk. The buffer system neutralizes the greater part of the hydrochloric acid. This results in two undesirable conditions in the stomach.

When the buffer system of cow's milk neutralizes the gastric acidity, there is little modification of the protein curd in the stomach. The unmodified curd results in gastric stasis and may cause vomiting.

When the buffer system of cow's milk neutralizes the gastric acidity, it raises the pH of the stomach. The normal amount of gastric acidity is decreased by fever, starvation and infection. If, while the gastric acidity is reduced by illness, the feeding offered further neutralizes the gastric acidity, the pH will become favorable for the growth of the flora normally present in the lower bowel. When these organisms are present in the upper part of the intestinal tract, they produce the symptoms of vomiting and general toxicity. This upward migration of the lower bowel flora has been demonstrated.

The ingestion of insufficient food may lead to diarrhea. Insufficient food results in a hypermotility of the intestinal tract. This increased speed of gastrointestinal transmission of food does not allow adequate time for proper gastric digestion.

Diarrhea may be caused by overfeeding. The entire formula or some component of it may be in excess. If the excess portion is fat, gastric retention with nausea and vomiting occurs. The fatty acids are known to be irritating and to give the well recognized symptoms of abdominal distress and nausea.

Upper Intestinal Dysfunction in Diarrhea: If the gastric acidity has been decreased by illness and imperfect feedings, the pH of the upper intestinal tract will be raised. The flora of the lower bowel will migrate upward. Their presence in the upper bowel will result in premature and undesirable fermentation of carbohydrate.

The hypermotility of the small intestine caused by hunger can be demonstrated roentgenographically. This hypermotility inhibits normal digestion and absorption.

If the feeding has contained an excess of carbohydrate, it may act as a holagogue in the small intestine. This results in further fluid loss.

Lower Bowel Dysfunction in Diarrhea: If abnormal fermentation of food has occurred in the upper bowel, the fecal material will be acid in character and an abundance of CO_2 will be present. The acid produced by the fermentation will increase the secretions of the mucosa and will irritate the intestinal wall to interfere with reabsorption. The CO_2 is an expulsive force for the feces. Under these circumstances none of the normal physiologic processes of the lower bowel are accomplished. Of particular importance is the failure of the lower bowel to reabsorb fluids, electrolytes and minerals.

The hypermotility of starvation is demonstrable in the large intestine. An extreme example of starvation stools occurs in the case of the infant parenterally fed for a long period of time who continues to have frequent, very small, mucus stools.

If carbohydrate is in excess in the feeding, its complete digestion in the upper bowel is impossible. This undigested sugar is fermented by the flora of the lower bowel, and diarrhea results.

In reviewing the gastrointestinal dysfunction present in diarrhea, it is apparent that food may be a cause of diarrhea. The following discussion will correlate nutritional management with the treatment of diarrhea.

Selection of the Proper Formula: The chief advantage of the use of acidified cow's milk in the feeding of normal infants is to modify the curd. The acidification does not truly acidify; it neutralizes the buffer system to such a point that the infant's gastric acidity will be adequate to quickly produce the proper curd. The neutralization of the buffer system in cow's milk is most important in the preparation of the formula for the infant with diarrhea. By the acidification of cow's milk, large curd formation, resulting gastric stasis and poor protein utilization are avoided.

The neutralization of the cow's milk buffer system by acidification protects the remaining gastric acidity of the ill infant. Such formulas aid in keeping the pH of the stomach low. Formulas that keep or help to reinstate normal gastric acidity are part of good nutritional management.

The selection of the proper type of carbohydrate requires the knowledge of a few facts concerning the different sugars. The commonly used corn syrups or dextrin-maltose preparations have a reasonable margin of safety against laxative effect. These are rapidly absorbed under normal intestinal conditions and so result in a minimum of fermentation, even when used in large amounts.

If fermenting bacteria are present in the upper intestinal tract, these sugars will ferment. If the fecal material is rapidly carried to the lower bowel, the incompletely digested sugar will be fermented. Dextrin is slowly converted to the simple sugars, dextrose and maltose. Due to the digestion required before it can be used, dextrin is not suggested during a diarrheal state. Dextrose requires no digestion and is quickly absorbed. It may be obtained in a pure form at reasonable prices from the druggist. Dextrose is the sugar of choice in the preparation of the formula for the infant with diarrhea.

In our present state of knowledge there is no method of altering the fat of cow's milk to make it more tolerable. Ill infants have a decreased tolerance to these fats. More specifically, this is an intolerance to the fatty acids, butyric, caprylic and caproic. These fatty acids are known to be irritating to the gastrointestinal wall. The altering of the size of the fat globules by such means as homogenization has no effect on the digestibility of the fat. The fat must be removed from the formula of the infant with diarrhea. The mother may do this by pouring off the cream of whole milk. In many localities mechanically skimmed milk may be purchased.

Up to this point the discussion of the infant with diarrhea has referred only to the loss of ingested food. There are other losses caused by diarrhea that are more important to the infant's immediate health. The loss of these essentials is caused by the irritated intestinal wall. This irritation results in increased secretion but a decreased absorption. This combination of over-secretion and inability to absorb results in gross losses of fluid, electrolytes, minerals and vitamins. The problems related to these losses have been thoroughly investigated. Only brief reference to some of these problems can be mentioned in so abbreviated a discussion.

The volume of body fluid lost by an infant due to diarrhea may represent 25 per cent of his body weight. This great loss is made possible without causing death, because the infant normally has a high proportion of body water. An infant with relatively severe diarrhea may make no weight gain while receiving 200 cc. per Kg. of fluid during a 24 hour period. The infant with diarrhea sufficiently mild to justify oral feedings should be given frequent small feedings of fluids to bring his daily intake as near to tolerance as possible.

The disturbances in body electrolytes caused by diarrhea in each case are revealed in some degree of serum electrolyte imbalance. The loss of sodium in the stool results in a hyperchloremia

and a low serum HCO_3 . An accompanying loss of intracellular potassium may be demonstrated. These disturbances of body electrolytes result in a unique appearance: The eyes have dark circles around them and appear to be sunken. The skin is ashen in color, and there is loss of normal turgor. The infant is apathetic. The gasping respiration of acidosis is present.

The care of such an infant who will require parenteral fluids is beyond the topic here discussed. A few trends in relation to dietary management of these patients is of interest. With the increased knowledge concerning body fluids and body electrolytes it was shown that these infants would respond favorably to the parenteral administration of electrolytes if given in amounts calculated to their infant needs. This resulted in a period of several years during which the accepted treatment of severe diarrhea included long periods of starvation and parenteral feedings. The pendulum is now swinging back. Electrolyte and glucose preparations are offered from the onset of treatment.¹ This provides much needed calories and electrolytes that may be used to overcome the severe body losses. Oral feeding of milk, optimal in character for the diarrheal infant, are started at such a time as the infant can tolerate them. Such feedings are started on the second to fourth day, depending on the severity of the disease. Calorically adequate feedings are taken on the average by the seventh to the tenth day.

Calcium is a normal component of the secretions of the upper intestinal tract.² In the adult this normally represents 0.6 gm. of calcium secreted each day into the lumen of the intestine. In diarrheal states the greater part of this is lost by lack of absorption. Severe calcium deficiencies have been demonstrated in infants with diarrhea. In some cases symptoms are sufficiently severe to require treatment with parenteral or oral calcium. Many factors, including the lowering of gastric acidity and the loss of vitamin D, play a part in the imperfect absorption of calcium.³ Similar losses are shown to occur for phosphorus and magnesium.

In summary, the optimal formula that can be prepared by using cow's milk for the infant with diarrhea is a skimmed milk, acidified formula, containing not more than 6 per cent dextrose, diluted to give a total fluid volume not less than 150 cc. per Kg., offered in divided feedings every three hours, with water-soluble form of vitamin preparation to be added.

In each case of diarrhea the physician must use his clinical judgment to determine the severity

of the disease present. The extent of therapy depends upon this decision. It may be such a mild case that a slight change in the amount of sugar used in the feeding will be adequate therapy. The dietary changes and the skill required to determine their need increase with the severity of the diarrhea. Thus the proper formula may include any or all of the changes suggested in the preparation of the optimal feeding for the infant with diarrhea.

Intelligent care of diarrhea is possible if the causes and resultant pathologic physiology are known. By far the great majority of infants with diarrhea can and should be treated by conservative nutritional management. By intelligent management of the early, mild case, a more severe and complicated case may be averted.

The Nutritional Management of Constipation

Constipation during infancy and childhood is not commonly of sufficient severity to require prolonged treatment. For the great part it is related to minor problems of nutrition and infant feeding or the establishment of proper bowel habits.

It would seem that there are rather distinct age periods during which the problem of constipation is most troublesome. The cause of constipation in each age period is unique for that age.

Frequently, any slight variation from the usual number of stools is interpreted by the mother to be constipation. Information concerning the variation that may well occur in bowel habits and reassurance that such periods will be of no harm constitute a part of good prophylactic well baby care. If an infant is seen regularly, bowel changes suggesting mild constipation will be noted. Minor changes in the diet to correct such complaints will prevent major problems at a later date.

The usual statement that constipation is not as common among breast-fed infants as among artificially fed babies is no doubt true. Constipation does occur in breast-fed infants. It has been said that this usually indicates an insufficient maternal milk supply. This may be the cause in some cases, but in others who are making excellent weight gains it would not seem to be a valid explanation. Not infrequently, breast-fed infants establish bowel habits with four to five days between the passage of large, normal-appearing stools.

Due to the large amount of casein present in cow's milk, constipation in artificially fed infants is not infrequent. Excessive amounts of casein in the lower bowel form large, smooth, solid, fecal masses composed of soaps, fats and undigested protein curds. This mass is moved with

difficulty by the peristaltic movement of the intestinal wall. This constipating effect of casein is decreased by proper curd modification.

The most convenient way to control the tendency toward constipation in the artificially fed infant is to increase the carbohydrate. This assures sufficient intestinal acidity and laxative effect to overcome the alkalinity and constipating effect of the protein. Infants differ widely in their response to the increase of sugar. Some mothers relate that their infants are sensitive to even minor changes in the sugar content. The type of sugar used in a formula affects the laxative action. As has been previously discussed, maltose, dextrose and dextrin are nonlaxative when used in proper amounts. The common types and preparations of sugars commercially available have been selected for normal infant feeding. The usual changes in the content of these sugars alter the type of stool, but do not produce a marked laxative effect. Dextrose or maltose must constitute 10 per cent of the formula before a stool change occurs. A formula containing 20 per cent dextrin may be ineffective as a laxative. If a marked laxative effect is to be obtained by the common sugars, large amounts must be used. Sugars with additional potassium salts to produce a laxative effect are available.

When a true laxative effect is desired, laxative foods may be added to the diet. Prune juice remains a dependable mild cathartic. Its effect is greater than could be explained by its sugar content. Molasses is a common household food that, because of its high content of fermenting sugars, acts as a laxative. The use of the "malt soup extract" represents one of the easiest, most palatable and most reliable food laxatives.⁴ It, too, is a crude sugar product.

A group of babies seen during the latter part of the first year of life has irregular bowel habits and constipation. The normal development of the intestinal tract anticipates the addition of solid feedings during the first year of life. Babies who receive only milk feedings or insufficient solid feedings during this time are frequently constipated. There are marked variations in the time of maturity of the intestinal tract. An occasional infant seems unduly constipated very early during the first year. If more than the usual volume of solids is added to the diet in such a case, a desirable improvement frequently occurs. Constipation in this age group is frequently related to insufficient solid feedings.

One of these age groups is the victim of our civilized manner of living. These are the babies whose parents do not discontinue strained foods

at the time when the baby could, and should, be eating diced foods from the table.

Two other age groups might be mentioned. One group of children, usually about 2 to 3 years of age, comes from homes where rigid attitudes toward bowel training have resulted in the failure to establish normal, regular bowel habits. The other group of children is considerably older, usually 4 to 6 years of age. Uniformly they have parents who have overemphasized the problem of constipation. These two latter groups are much more difficult to treat because the problems are more complex than the earlier problems of intestinal function which responded to conservative nutritional therapy.

The Nutritional Management of Colic

The word *colic* is used to describe a fairly unique clinical condition. The infant is usually not more than 4 months of age. He has recurrent paroxysms of abdominal discomfort. During an attack his legs and arms are flexed, and he screams in obvious pain. His abdomen is distended and his face is suffused. The paroxysm passes, and he is free of symptoms until the onset of another attack.

To treat the infant with colic requires a complete evaluation of numerous factors in his environment and pattern of living. There is general agreement that the usual causes of colic are those related to imperfect environmental factors. A discussion of these problems, as indicated by the title, is not within the scope of this paper. Only the nutritional management of colic will be discussed.

A number of variables related to the feeding of infants has been observed and recorded by able clinicians to result in the symptoms of colic. Colic is caused by forcible peristaltic contractions or by overdistention of the intestinal tract with gas. Forcible peristalsis has been observed to be caused by hunger, overfeeding, indigestion, food allergy, autonomic nervous system imbalance, partial obstruction of the ileocecal valve and intestinal immaturity. Overdistention of the intestinal tract has been observed to be caused by swallowing air or by the excessive fermentation of food. It is apparent that there is no single cause responsible for the symptom of colic.

Hunger, the result of underfeeding, has been said by some to be the most frequent cause of colic. It seems most doubtful that hunger contractions could be a primary cause of such intense pain. It is frequently possible to demonstrate an increased amount of air in the stomach of the hungry infant. As he cries from the discomfort of hunger or as he violently sucks his fist, he

swallows air. This same hunger increases the difficulties of feeding, in so far as avid sucking or gulping of food results in air swallowing.

If the baby is bottle-fed and the formula offered is found to be well proportioned but insufficient in amount, as simple a procedure as increasing the amount offered may improve the symptoms. It has been observed that for several feedings, or even for a few days after such a change, the symptoms may increase before they decrease. Perhaps this represents the time during which the baby continues to be basically hungry. Perhaps such a change requires a period of time for intestinal physiology to adjust to the change. Many of the infants whose colic responds to such simple treatment are observed to be infants who are growing at a far greater than average rate. They are frequently infants who "just can't take enough food."

Brenneman states that colic occurs "more frequently and more violently in breast-fed infants." He does not feel it is related to an inadequate amount of maternal milk supply. He states that underfed breast-fed babies are "good babies."⁵ This observation concerning the breast-fed infant with colic is not a commonly recorded concept. If on the basis of inadequate weight gain, or perhaps by weighing before and after breast feedings, the maternal supply is found to be inadequate, a supplementary feeding is indicated.

The case for overfeeding as a cause for colic has not been made clear. Colic caused by overfeeding has been reported to occur in breast-fed babies. Procedures to decrease the amount of maternal milk are suggested. When overfeeding is observed in the bottle-fed baby, the common error is not too great a formula volume but too high a formula caloric value. Such formulas may be used by mistake but frequently represent an effort to rapidly increase the infant's weight. Such formulas increase the hazards related to the fatty acids of cow's milk. The large amount of carbohydrate increases the intestinal fermentation. The necessary abundance of fluid for normal infant metabolism is lacking. The resultant unnatural fecal mass may prove the immature intestinal tract to be inadequate. When the caloric value is decreased to normal, the infant rapidly improves.

The incidence of colic in babies fed by demand-feeding plans is stated to be materially lower. This deserves further investigation as it will in part shed light on the importance of caloric intake as a cause of colic.

Common usage of cow's milk for artificially feeding infants would suggest that in the great majority of cases its components are well toler-

ated by normal infants. It would be a reasonable conclusion that there is a variation in tolerance to the irritating fatty acids present in cow's milk. Symptoms of indigestion would occur in those with a low tolerance. In an effort to prepare the most innocuous feeding for the infant with colic the advisability of a low fat formula must be considered. This change in diet is valid only after it has been determined that the immediate problem is not one of hunger. In such cases the satiation factor of fat is most important.

Of controversial importance as a cause of intestinal distention is the presence of CO₂ caused by the fermentation of carbohydrates. It is the observation of some that the control of this factor results in definite clinical improvement. When too much carbohydrate is included in a formula, only a part will be digested by the limited amount of digestive juice available. The remaining amount of carbohydrate will be fermented by the intestinal flora of the lower bowel.

In an effort to control excessive fermentation, one of the two following carbohydrates should be selected. Dextrose results in a minimum of fermentation and should not be used in greater than 6 per cent concentration. Dextrin, a complex carbohydrate, is digested with a minimum of fermentation. The advantage of dextrin is that it may be used in amounts up to 15 to 20 per cent of the formula.⁴

It has been recorded that in some cases the use of acidified milk was efficacious in reducing excessive fermentation. This is presumed to decrease the fermenting bacteria. Some clinicians have felt that the acidification of the formula increased the colic. This intolerance to acidified milk has been explained as occurring in infants with an increased amount of gastric acidity.

It is the statement of some who have had long experience with infant feeding that the incidence of colic is on the wane. This they feel is due to the progress that has been made in infant feeding. One of the most important developments has been the recognition of the importance of modifying the protein of cow's milk. The usual procedures in the preparation of a formula to obtain this change, as heating or dilution, are frequently done without thought of their purpose.

There is a predictable ease with which a normal infant can tolerate the high casein feeding of cow's milk if that protein is modified to decrease the curd tension. For the infant with less than normal intestinal response tolerance to cow's milk is dependent upon modification of the curd. The lower the curd tension obtained, the better the feeding. The use of acidified milk has proved of value. The favorable reports of the use of

powdered milk preparations may be explained by their low curd tension. We must recognize that one of the important considerations in the preparation of the formula for the infant with colic is that the protein in that formula be modified for optional digestibility.

There is an occasional reference in the literature stating that clinical improvement has occurred in the treatment of colic with the use of thickened feedings. The infants so treated were for the greater part observed to have an accompanying complaint of regurgitation. This, of course, would suggest that in those cases some element of pylorospasm was present to complicate the clinical picture.

Brenneman has presented an interesting and plausible thesis explaining the symptoms of colic as being caused by an immaturity of the intestinal tract. More specific localization of a defect in immature intestinal function has been made. It is suggested that the ileocecal valve partially obstructs the passage of chyme into the colon.⁵ Similar complaints are observed in adults having partial obstruction of the ileocecal valve. The solution to the problem then becomes the prevention of an excessive accumulation of chyme in the distal end of the ileum. To achieve this, frequent, small, concentrated feedings are given. This is said to equalize the stream of chyme and to reduce the fecal bulk. This hypothesis deserves further study.

Allergy as a cause of colic has been in the past synonymous with a diagnosis of idiopathic colic. Experimental work and clinical observations have been pooled to clarify the place of allergy in the intestinal dysfunction. It has been roentgenographically shown that segmental stenosis of the small intestine occurs when allergenic feedings are taken by hypersensitive infants.⁷

If there is sufficient evidence in the evaluation of the infant with colic to suggest allergy as the cause, excellent and complete milk-substitute feedings are available in the form of soybean protein preparations.

Nutritional management of the infant with colic is of importance, because the infant, as shown by his symptoms, is having a difficult time in adjusting his immature body to his environment. During this period of stress it is obvious that feeding must be the result of careful planning.

It would be an error to discuss the nutritional management of the infant with colic if by so doing the mechanics and psychologic factors related to infant feeding were de-emphasized. The treatment of colic starts with a common sense appraisal of the infant and his environment. This must include the spectrum of possible problems

that relate to infant feeding from the size of the holes in the nipple to the role of the grandmother in the family. It would seem undesirable to share with the parents the necessary cerebration regarding the selection of the optimal feeding, lest they use the formula as a scapegoat. The feedings are the obvious thing to the parent. They can easily be blamed and easily changed in contrast to the basic problems of human living so often present in such situations.

If, while one is helping the parents work out these situations, the baby's feeding is sufficient in calories, is easily digestible and is complete in its requirement for growth, improvement of symptoms, if not alleviation, can be expected to occur in the great majority of cases of colic.

This discussion has of necessity been both incomplete and brief. It is hoped that this review will add interest to the thoughtful use of nutrition management in the treatment of common intestinal disorders.

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College of Medicine State University of Iowa CLINICOPATHOLOGIC CONFERENCE February 15, 1950

Summary of Clinical Record

A 68 year old woman was admitted to the hospital Nov. 21, 1949, in an unconscious state. The history was furnished by her son, who stated that she had been having episodes of unconsciousness for five years. There was no history of a similar type of illness in her family. The patient had been comparatively free from illness until 10 years ago when she had an inguinal hernia repaired. From that time on she complained of mild shortness of breath on exertion and required two pillows at night. She also began to complain of stiffness in her back and extremities at intervals.

Five years before admission she began to have

spells characterized by a peculiar cry and followed by a tonic state and then clonic movements of all extremities. She would become unconscious in these attacks and remain so for an average of 45 minutes. She would froth at the mouth and sometimes be incontinent of urine. The attacks would invariably be associated with cyanosis of the face and extremities. The spells occurred approximately once per month until one and one-half years before admission; at that time she was informed that her systolic blood pressure was 190 mm. of mercury. Anticonvulsant medication was administered for a period of time in an effort to control the seizures. She was free from attacks and from other related symptoms until one month before admission. At this time she developed weakness, which lasted approximately 18 hours. From that time until two weeks before admission she had approximately five convulsive attacks of the type described above. Ten days before admission she ate her breakfast but again complained of being very weak generally. At 1530 hours her son found her unconscious. She was taken to a hospital, where she received intravenous injections. She remained unconscious until 0400 hours the following day. She improved sufficiently to be able to visit with other patients in the local hospital. The attacks of unconsciousness, without convulsions, began to occur more frequently, however. She would invariably improve after an intravenous injection, but "her mind began to be affected," her memory became poor, and she began to talk about the "old country." It was noticed by the son that during the attacks she would be bathed in perspiration. Two days before admission she lapsed into a deeply unconscious state from which she could not be roused; she developed a fever and had considerable respiratory difficulty. At no time in her illness did she complain of headache.

At the time of admission to the hospital her temperature per rectum was 102.8 F. The blood pressure was 170/100. The heart rate varied from 100 to 140 beats per minute. The respiratory rate varied from 20 to 40 per minute. There were occasionally periods of apnea. The upper respiratory passages were filled with secretions, so that it was necessary to insert an endotracheal tube and to use suction frequently. Examination of the scalp revealed nothing unusual. The eyes were deviated upward. Her pupils reacted well to light. Examination of the right optic disk revealed no evidence of papilledema. The retinal arteries showed moderate arteriosclerotic changes, but no hemorrhage or exudates were seen. Her face was symmetric. Her neck was not stiff to anteflexion. There was no cervical or inguinal

adenopathy. Coarse rhonchi were heard in both lung fields. The heart was not enlarged by physical examination. The tones were normal. The rhythm was regular; there were no murmurs. The abdomen was soft. No masses were felt. She had a retention catheter in place. The upper and lower extremities were flaccid, but she withdrew all members feebly from painful stimuli. The deep reflexes were active and equal. On occasions a bilateral plantar extensor response was obtained; at other times the response to plantar stimulation was flexion.

The specific gravity of the urine was 1.030. There was 1 plus albumin. The urine contained no sugar or blood. There were 8 white blood cells per high power field on microscopic examination. The hemoglobin was 12.5 gm. per 100 ml.; the erythrocyte count, 3.87 millions per cu. mm.; the leukocyte count, 11,750. There were 69 segmented polymorphonuclear leukocytes, 1 eosinophile, 1 basophile, 22 lymphocytes and 7 monocytes per 100 cells in the peripheral blood. No abnormal cells were seen in the sternal marrow preparation. The urea nitrogen value was 20 mg., and the creatinine, 1.2 mg. per 100 ml. The carbon dioxide combining power was 55 volumes per cent. The albumin value of the blood serum was 3.15 gm. per 100 ml.; the globulin was 2.77 gm.; and the total protein value was 5.92 gm. The chloride value was 765 mg. per 100 ml. Serologic tests on the blood were negative for syphilis. The spinal fluid was under an initial pressure of 235 mm. of water in the lateral hori-

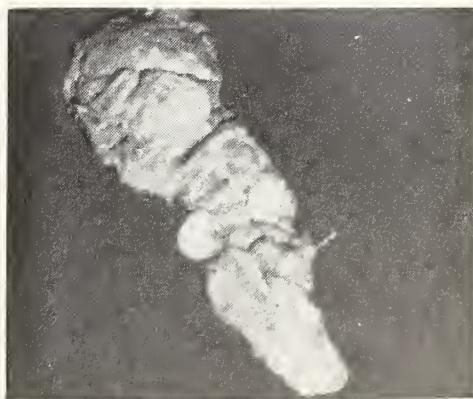


Fig. 1. Islet cell adenoma, pancreas.

zontal position. The fluid was clear and colorless. The Pandy test for globulin was 1 plus. There were no cells. The total protein was 39 mg. per 100 ml., and the Wasserman test was negative for syphilis. X-Ray films of the chest were normal. Skull films were also reported normal. The pineal gland was not calcified in the x-ray films.

During the course of the next few days her fever dropped gradually, so that on her fifth hospital day her temperature was normal. The pulse rate was now 90 beats per minute, and the respiratory rate, 25 per minute. During this time she was given 300,000 units of penicillin every eight hours. Fluids and glucose were administered by the intravenous and subcutaneous routes. Less difficulty was being experienced from accumulated secretions. She was able to say a few words and to cooperate slightly in the usual nursing procedures. A Levin tube was passed, and feedings were begun by this route. On her seventh hospital day she vomited several times, and her temperature rose to 103 F. Her respirations again became very rapid. She died on her eighth hospital day after again having reverted to a deeply uncon-

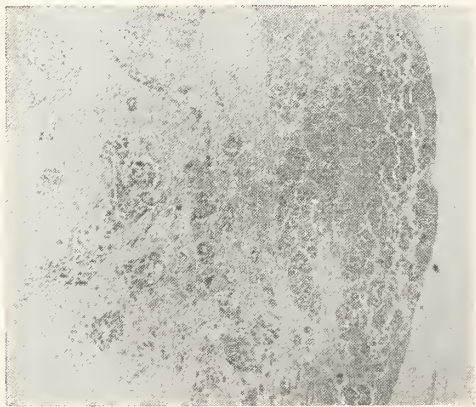


Fig. 2. Islet cell adenoma, pancreas, low power.

scious state. Her blood pressure had dropped to 100/60 shortly before death, and she had developed edema of the periorbital regions and the lower extremities.

Dr. A. L. Sahs (Neurology): The protocol contains most of the important data, but, by way of review, she had had episodes of unconsciousness for five years and a history of some shortness of breath on exertion for a period of 10 years. The attacks were fairly definitely those of grand mal so far as we could determine from the history. There was some relief from the use of anticonvulsant drugs. Some time before admission, the exact time not being definitely known, she began to have attacks of unconsciousness which were not associated with the convulsive seizures. She would be bathed in perspiration during these episodes and would respond to the administration of intravenous injections. At the time of admission she did have a fever, but there was little in the neurologic examination which would give us a definite clue as to what was going on.

Student: The students this morning considered

two major diagnoses: that of epilepsy, which was in the minority, and that of hypoglycemia, which was in the majority. The epilepsy was thought possibly to be secondary to brain tumor, brain abscess, and possibly to lead poisoning or drugs, anoxia from previous surgery, generalized arteriosclerosis, hypertension or cardiovascular disease. The hypoglycemia was thought to be due to some lesion in the pancreas, possibly an islet cell tumor. I think they based this upon the fact that she had been give fluids and glucose and responded to it and due to other findings such as weakness before breakfast and periods of coma. As for the terminal event, the students didn't come to a strict diagnosis of that. It was possibly due to hypoglycemic shock with a secondary pneumonia, possibly to a secondary renal insufficiency or to status epilepticus.

Dr. Sahs: A blood sugar determination was made on the day after admission, and the value was 25 mg. per 100 cc. The value rose to 74, to 175 and eventually dropped again to 45, in spite of the fact that glucose was being administered most or all of this time. Interestingly enough, the original spinal fluid sugar was 12 mg. per cent. I believe that might have given us a clue in the absence of infection if we had not had the blood sugar value determination before the spinal fluid results came back. There are several items in this protocol which might make one suspicious of hypoglycemia, such as the observation that she would come out of her bout of unconsciousness after intravenous injections of glucose and the fact that during the attacks there would be profuse diaphoresis. So far as this problem is concerned, I think one can almost run the gamut of diagnostic possibilities.

We did think originally of a brain tumor because of the history of unconscious episodes which were most likely grand mal in type. Differential problems concerned in this case would include, in addition to brain tumor, arteriosclerosis, generalized and cerebral, epilepsy due to other conditions, encephalitis, posttraumatic states and the like. Going through the literature of hypoglycemia, whether spontaneous or induced by insulin or by other conditions, one encounters some unusual symptomatology. Alterations in consciousness probably head the list, either with loss of, or impairment of, consciousness. That category would include, of course, various confusional states, some of which may last a long time. Weakness, fatigue, diaphoresis, visual disturbances, clonic convulsions, headache, tremors, hunger, paresthesia, irritability and abdominal pain are listed as symptoms.

Dr. T. L. Carr (Internal Medicine): Dr. Sahs

has discussed briefly the differential diagnosis and has correctly determined that there is hypoglycemia present. In 1947 Conn reviewed the literature on patients with hypoglycemia and made a contribution of a series of his own to it. He listed 25 known and several unknown causes, so I hope the students considered more than just islet cell adenoma of the pancreas in their differential diagnosis of the hypoglycemia.

Another point that I would like to make before we discuss this is the fact that credit for the first description of hypoglycemia with the symptomatology as Dr. Sahs described it, must go to Dr. R. B. Gibson of our Pathologic Chemistry Laboratory and Dr. R. N. Larimer, who reported in the *Journal of the American Medical Association* in 1924 a patient with renal diabetes who had hyperinsulinism. This, I think, is deserving because it wasn't recognized until recently that the man who had been given the credit for first describing this was six months late on the draw.

In considering hyperinsulinism, I think, we must go back to Conn's classification in which he divides these people into three main groups—organic, functional and miscellaneous. The miscellaneous group can be excluded in the differential diagnosis in this patient because I don't believe we have evidence that this patient was taking insulin. I don't think that we have any evidence that there was an operative procedure. She certainly was debilitated; her symptoms had gone on for five years; and it's hard to believe that there could be any relationship there in the hypoglycemia that she was undergoing.

In the functional group of people most hypoglycemic episodes are not of great severity; they usually aren't prolonged, and they may occur over a period of many years. It is fairly apparent that the symptoms that occur in a patient with hypoglycemia are not necessarily on the level of the blood sugar but on the rapidity with which the blood sugar level falls. In that group we have to include patients who have had gastric resection in which a large quantity of glucose or carbohydrate might be dumped rapidly in the intestine, calling forth a great deal of insulin* from the normal pancreas and overcompensation by that pancreas, after which the patient would have an episode of hypoglycemia. Under that we can also include alimentary glycosuria in which there is excessive alimentary absorption of glucose and renal glycosuria. Severe continuous muscular work also must be included in this group. I think it should be kept in mind that most of these people do not have severe episodes of unconsciousness due to hypoglycemia.

Among the organic causes of hypoglycemia are

those in which there is a recognizable anatomic lesion. It's been shown that certain lesions in the hypothalamus, perhaps, have some interference in the control of the blood sugar and may result in a hypoglycemic episode which usually isn't this severe but can be. Possibly a little more common are the hypoglycemias which are associated with the adrenal cortical atrophy; that can be either primary adrenal cortical atrophy in which the blood sugar may become low, or it may become secondary to pituitary disease. Now another type might be so-called idiopathic hypoglycemia where blood sugar can be low, and then, of course, there is disease of the pancreas which could be an adenoma, carcinoma or diffuse hyperplasia of the islet cells of the pancreas.

In differentiating these, an attempt has been made on clinical grounds to classify them as being so-called fasting hypoglycemia or stimulative hypoglycemic episodes. I think you can perceive what we mean by stimulative hypoglycemia when we say if you dump large quantities of glucose in the intestinal tract, you stimulate the pancreas to pour out more insulin. That is the type where most of those under the functional group fit in

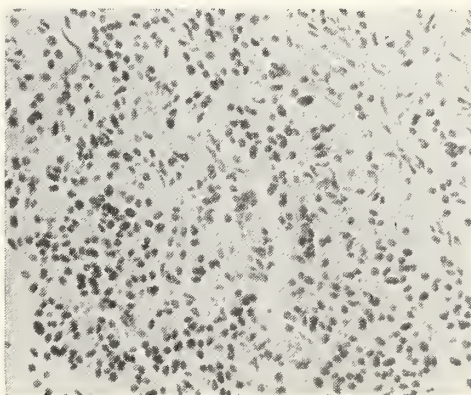


Fig. 3. Islet cell adenoma, pancreas, high power.

the classification. The so-called fasting type occurs in organic hypoglycemia when there is a tumor in the islet or hyperplasia and in the case of pituitary, adrenal cortical or liver disease, whereby the patient, if he remains without food for long periods of time, and usually that is at night, will develop a gradually lower and lower blood sugar until between 2:00 a. m. and 8:00 a. m. or between midnight and breakfast the next morning, the patient is most apt to have his convulsive episodes.

We can't be certain from the history of this patient, but as near as we can tell she fit both the fasting and the stimulative types of hypoglycemia. It's extremely unlikely that if patients had severe enough liver disease to have had hypoglycemia,

they would get through a five year period. Usually when they have hypoglycemia after a severe liver disease, it's a terminal event. Because we are confronted with a patient who is completely unconscious and unresponsive and one who did not respond promptly to intravenous glucose when it was first administered, we feel that this is a severe type of organic hypoglycemia. The most likely diagnosis is a tumor in the pancreas. I know of no way in which we can be sure whether this patient had a diffuse hyperplasia or adenoma of the pancreas, except that adenomas are by far more common than diffuse hyperplasia and by the same token that adenomas are by far more common than carcinoma. In addition, most carcinomas of the islet cells of the pancreas resulting in this type of phenomena are of shorter duration.

What diagnostic criteria would you use to establish whether or not this patient should be explored? In reviewing the literature, it appears that all of these patients must have a severe degree of hypoglycemia on fasting over a period of time, and a careful attempt must be made to rule out associated liver disease, pituitary or adrenal cortical disease.

Dr. Sahs: As soon as the clinical diagnosis of hypoglycemia was made and the condition of probable adenoma of the pancreas was suspected by the consultants, then the problem was not yet solved, in spite of the fact that the blood sugar reached fairly normal values in the course of the next few days as the result of intravenous injections of glucose and fluid. There was not very rapid improvement in her condition. She remained deeply unconscious, had respiratory difficulty, accumulation of secretions and was certainly in no condition to have an operation. We inquired of ourselves why this woman did not improve in spite of the fact that her blood sugar levels, at least for a while, were stabilized at a fairly normal figure. Complications can occur as a result of protracted hypoglycemia. Those complications may be cerebral in type, and there are numerous instances from the experimental field and also in clinical cases in which recovery of brain function did not occur after protracted bouts of hypoglycemia. Episodes of hypoglycemia which are allowed to continue may result in irreversible brain damage.

Clinical Diagnosis

Islet cell tumor of the pancreas.

Necropsy Diagnosis

At autopsy there was an islet cell adenoma which measured 1 cm. in diameter in the body of the pancreas. The tumor was not sharply encapsulated histologically, and considerable scarring

was present in the central portions of the tumor. The cerebral cortex showed extensive patchy foci of acute necrosis with neuronophagia and severe passive congestion. Early demyelination was noted in some sections. Aspiration pneumonia was encountered, and this was considered an agonal event. Fatty metamorphosis and central necrosis of liver were associated with hypoglycemia and hypoxia. Generalized arteriosclerosis was present, being most severe in the brain and kidneys. Incidental findings included chronic cholecystitis with cholelithiasis and a small nodular goiter.

Necropsy diagnoses:

Islet cell adenoma, pancreas.

Hypoglycemia (clinical).

Focal areas of degeneration and necrosis, cerebral cortex.

Aspiration pneumonia, terminal.

Arteriosclerosis, generalized.

Fatty metamorphosis and mild central necrosis, liver.

Congestion of viscera.

Chronic cholecystitis with cholelithiasis.

Nodular goiter, mild.

Dr. J. M. Layton (Pathology): In the last 16 years we have had 15 islet cell tumors in the autopsy and surgical records; of these, 10 have

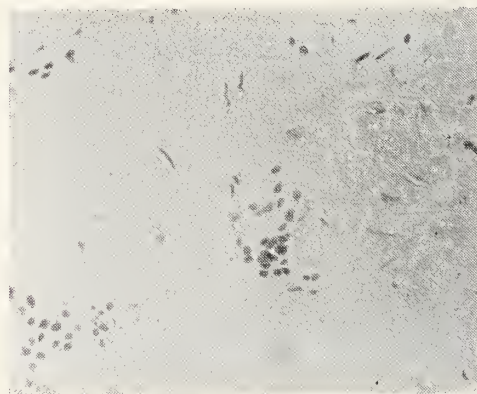


Fig. 4. Islet cell adenoma, pancreas, showing fibrosis.

been nonfunctioning and 5 have been functioning. I want to say a few things about functioning islet cell tumors. They may occur at any age, having been reported from 6½ weeks to 68 years of age. The peak incidence occurs between the ages of 40 and 50 years, and the severity of the symptoms is not a function of the age of the patient. In the benign tumors there is no significant sex difference, but in the malignant tumors there is a slight preponderance of males. Of the benign tumors, 88 per cent have been single tumors and 12 per cent have been multiple. Some patients have had a diffuse adenomatosis; in other words,

many small foci of benign neoplasia have been scattered throughout the pancreas. This is of practical import to the surgeon, because he must always consider the possibility of multiple tumors in any patient whom he is exploring for an islet cell tumor. The tumors vary from a microscopic size up to 11 cm. in diameter. Seventy-five per cent of them range from 1 to 3 cm. in their greatest diameter. The severity of the symptoms is not a function of the size of the tumor.

As you see in this particular case that we have under discussion, the greater part of the tumor consisted of scar tissue, but there were enough islet cells persisting to cause her difficulty. It has been stated that most of the tumors are in the tail of the pancreas. That is not quite true. They are scattered with about the same frequency throughout the substance of the pancreas. Adenomas and carcinomas have been reported arising in bits of aberrant pancreatic tissue. The tumors in the head of the pancreas lie deep in the substance of the gland as a rule, whereas the tumors in the body and tail lie near the surface, such as this one did. Those which lie in the body may be difficult to find at the time of surgical exploration and that may be a source of difficulty for the surgeon.

Less than 10 per cent of the islet cell tumors are definitely malignant. As a whole, the people with malignant tumors fall into a slightly older age group than do those with the nonmetastatic lesions. The size of the tumors is slightly greater in the case of the carcinomas than in that of adenomas, and most of them are over 5 cm. in diameter. The pattern of the metastases is similar to that of carcinomas of the acinar tissue of the pancreas, and the liver is conspicuously involved. Most of these tumors are poorly encapsulated. In the earlier literature evidence of lack of complete capsule was considered as synonymous with invasion of the capsule. In addition, the presence of vascular invasion was regarded as *prima facie* evidence of malignancy in some of the early reports. But now that these cases have been reported in greater numbers and are subject to analysis, we find that many of these patients have been living 10 to 19 years without evidence of metastatic spread. The question then arises whether they were cured by the surgical procedure or whether the diagnosis was in error originally. That's a difficult question to answer. The tumors are rarely large enough to be palpable, as I have indicated, and the symptoms result from the hypoglycemia. As I have mentioned, they are centered for the most part in the nervous system and are extremely bizarre and inconstant.

I will summarize the 5 cases of ours briefly in

the light of some of these general statements that I have made. I won't include the patient we have today in the group, because you have the information on her. In the other 4 patients, two of the tumors were benign; one was malignant, and another was called malignant. There is now some doubt as to whether this last case is one of the difficult cases to classify which I mentioned a few moments ago, so I will put it in the questionably malignant group. Three of the tumors were in males, including the carcinoma, and one was in a female. Their ages were 20, 23, 37 and 37 years of age. All of them had just one tumor. The sizes of the tumors were listed as 1.2 cm., 3 by 1.5 cm., and one weighed about 25 gm. The carcinoma involved much of the head of the pancreas. None of the tumors which we have had here has been in the tail. Two were in the head; one was in the midportion of the body, and one extended forward in the body just distal to the neck. The duration of symptoms before these people came into this hospital for treatment varied from six weeks to four years. In 3 cases the symptoms were from two to four years' duration and in one only six weeks. The brain lesions are seen in greatest severity in the cerebral cortex, especially in the outer layers of the cortex, the corpus striatum, and very conspicuously in the neurones of the hippocampus, including the fascia dentata and pyramidal cells. It is difficult in these particular patients to separate the changes of hypoxia from those due to the insulin reaction, because the cerebral cortex is involved as well as the corpus striatum in each instance. The substantia nigra is not involved in experimental insulin hypoglycemia but is in asphyxia. The hippocampus is also spared in asphyxia.

Dr. N. A. Womack (Surgery): I did not want to discuss this patient before the autopsy findings were presented, as I was present at the autopsy and recall her most vividly. It is therefore no longer a diagnostic problem. However, when I was first called in to see her, she was a diagnostic problem. We knew that she had episodes of hypoglycemia, but I was not quite so certain that there was an islet cell tumor of the pancreas.

You will recall that when she entered the hospital, she was in coma and her blood sugar level was around 25 mg. per cent. She was treated with intravenous glucose. Now, if the coma is due to the low blood sugar and the blood sugar level is elevated, the coma should disappear. Her's did not. All one can ever hope to do in the surgical treatment of hypoglycemia is to relieve the hypoglycemia. Apparently with this patient, then, if the hypoglycemia were corrected, we would still

have a patient who was in coma and having convulsions.

Let us examine our problem from another angle. The energy requirements of the brain are supplied in two directions, by oxygen and by glucose. In this respect the brain is different from any other tissue in the body. The blood brain barrier will not allow many things to go through it—lactates, pyruvates and the like, which serve as a source of energy to muscle, will not pass through this barrier. I think it is of great interest that if the brain is deprived of either of its two great sources of energy, one finds almost the identical lesion produced. Dr. Layton has just told you that with the exception of some changes which have been described in the corpus striatum, there is little difference in the neuronolysis that one sees from oxygen deficiency and from sugar deficiency. You all are well aware, also, that the symptomatology of oxygen deficiency, such as is seen in arterial occlusions of the arteriosclerotic type or in cardiac insufficiency, can reduplicate the symptomatology of hypoglycemia. This patient, as you will recall, was hypertensive. She also was a cardiac. She had evidence of heart failure when I saw her. Therefore, in spite of the fact that this patient presented a low level of sugar in her blood upon admission, we could not be sure that this was the cause of her symptoms and not an incidental finding.

A third diagnostic consideration here is one of brain tumor and, in particular, one associated with a considerable amount of anterior hypophyseal damage. This patient was so ill that we were unable to obtain even skull films. Adequate examination of her eye grounds was impossible. We had only a history to use in excluding the diagnosis of intracranial neoplasm.

While the symptomatology of hypoglycemia is most characteristic, as can be seen from the above, it can be mimicked by other lesions. I think also that it is well worthwhile stressing to you the fact that the picture of clinical hypoglycemia is not always due to a tumor of the islands of Langerhans. Many of us have operated upon patients whom we felt fairly confident had an islet cell tumor only to find no evidence of a microscopic lesion whatsoever in the pancreas when explored. It was my good fortune to have played a part in the surgical approach to this disease in its beginning some 20 years ago. It also was my good fortune in this early period of surgical treatment of this disease to operate upon four patients in succession with a diagnosis of islet cell tumor and to find no evidence of such tumor in any of them. I say that it was my good fortune to have done the latter because it taught me to respect the

difficulty at times of diagnosing a tumor of the beta cells of the islands of Langerhans.

These tumors are strange lesions. Why do the symptoms from such a tumor appear in episodes often a year or two apart, while the tumor apparently is growing constantly as well as functioning constantly? The secretion of insulin must be under humoral control, for there are no nerves known to go to these tumors, and therefore the secretion should be fairly constant. Again, are these lesions really tumors? As you can see, in portions of this one there has been degeneration with healing by fibrosis. I recall one in which there was complete spontaneous cure by just such degeneration. That is not the story of a tumor as a rule. These lesions invade but often do not metastasize. They present mitotic figures, and yet the normal beta cell of the islet, so far as is known, cannot undergo mitotic division. We thus are dealing with a tumor which is in some aspects a simple hyperplasia, in others a benign tumor, others a malignant tumor, and at times there is no lesion at all.

In arriving at the diagnosis of a tumor of the pancreas, it is necessary to demonstrate a relationship between starvation, hypoglycemia and the presence of symptoms. This is most easily done by hospitalizing the patient and placing him on nothing by mouth except water. The first symptoms which develop are suggestive of too much adrenalin. There is nervousness, excitement, fear, sweating, sometimes coronary pain, sometimes cramps in the abdomen, periodic pallor with perspiration and a considerable increase at times in systolic pressure with but little alteration in diastolic pressure. There also is tachycardia. Cortical symptoms may then appear, and one may encounter various types. There may be catalepsy, convulsions, automatic motion, a dream state and the like. If the blood sugar level is raised by intravenous injection of glucose or by the giving of sugar by mouth, these symptoms should disappear immediately, often before the needle is taken out of the vein. This is the *sine qua non* of making a diagnosis of islet cell tumor. There is one exception that I should like to stress, and I have seen it most often in anxiety states or conditions of chronic fatigue. These patients at times will develop a pattern of action of such a sort that even after the hypoglycemia is corrected by diet, their symptomatology will persist. If, therefore, at any time one encounters the symptoms of hypoglycemia with a normal blood sugar level, he must think twice before advising surgery, for either he is dealing with a patient who does not possess a tumor or he is dealing with a patient who has a tumor but who also generally

possesses irreparable brain damage and often will not survive the surgical procedure.

Dr. Sahs: We don't want to leave the impression that all hypoglycemia is harmful. Dr. Miller, will you tell us something about the therapeutic use of hypoglycemia?

Dr. W. R. Miller (Psychiatry): I suppose there are thousands of patients every day that are hypoglycemic at some periods of the day in our mental hospitals. We have hypoglycemic patients on our wards at all times, as you know, artificially induced. There we are using the effects of hypoglycemia, its effects on the central nervous system and its tendency to produce regression, not only neurologic and physiologic regression, but psychic regression. These patients are purposely put into coma, the doses ranging anywhere from 150 to 400 units of insulin. The reason that it is used may be rationalization on our part, but we are convinced that in a good many patients it allows a state of consciousness or lack of consciousness which allows us to work better with the patient. It was introduced some 20 or 30 years ago by Sacal, who was using it in the treatment of morphine addicts and accidentally, I believe, found that a certain number of patients with mental symptoms improve after insulin shock. This was then used quite extensively in the treatment of schizophrenic patients, and it was found that after anywhere from 20 to 50 of these comas many of them seemed to improve.

With the introduction of electric shock, insulin treatment tended to drop out but has been reintroduced in combination with psychotherapy. We have utilized this regression that I talked about. Those of you who have seen patients in hypoinsulinism know that they show behavior that is somewhat infantile and childish. They show sucking movements and childish sorts of reaction. They bring out material they wouldn't talk about at other times, often material from their childhood, material that seems to be of primary significance in their disorder, and it is by working with these individuals at that stage of their consciousness that one is able to carry on the psychotherapy. This is particularly true in the schizophrenic patient. Now, we do run into difficulties, and we are continually apprehensive about some of the secondary unwanted effects. Occasionally we have patients who show irreversible reactions, patients who do not respond to administration of glucose, even though their blood sugar is brought up to normal. They remain in coma and will sometimes remain in a confused disoriented state for several days. Curiously enough, in such patients the most marked improvement that they have shown falls just after such a

disaster. We are naturally reluctant to carry on treatment after such an episode occurs, but there have been many remarkable improvements after this almost catastrophic event. Occasionally we have had patients who have developed hemiplegiae. Convulsions are fairly common. The interesting aspect of it, I think, is that patients getting up to 15, 20 or 25 insulin comas and often as high as 50 don't have more difficulty. After seeing those slides today, I shudder to think what the brains of some of these individuals might look like. It's simply another example of the great resiliency of the human nervous system.

Dr. Russell Meyers (Neurosurgery): Dr. Womack's discussion has brought into clear relief a broad pathogenetic principle which I believe clinicians would do well to exercise in their daily consideration of clinical manifestations; namely, that multiple factors, rather than a unit factor, are at work in the sick individual. Whether we happen to be dealing with hypoglycemia, fever, chills, convulsions, dermatitis or lymphadenopathy, a satisfying account of the signs and symptoms exhibited by any particular patient at any particular moment calls for a thorough-going inquiry into coexisting (sometimes seemingly trivial) factors and their complex interrelationships. The most obvious dysfunction—that which we are accustomed to designate loosely as *the cause*—rarely permits an explanation that will stand the test of critical analysis.

Dr. Miller expressed considerable concern over what the brains of the therapeutically shocked patient may look like. Possibly I can shed some light, however crudely empirical its source, upon this matter. In the course of prefrontal lobotomy operations, neurosurgeons have ample opportunity to observe the frontal lobes of relatively young sufferers from psychoses who have been previously subjected to from 20 to 75 shocks in one or another modality—insulin, metrazol and electric. Since in this hospital we employ the "open" technic of prefrontal lobotomy, a considerable portion of the hemisphere lies open to direct inspection. The majority of therapeutically shocked patients exhibit a degree of atrophy (widening of the sulci, narrowing of the gyri) and thickening of the leptomeninges in the form of a milky exudative organization within the arachnoid spaces following the course of the larger cortical vessels. The brain itself usually cuts with slightly greater resistance than the normal organ. All this suggests that the repeated shocks have irreparably damaged some parenchyma, that the breakdown products have been washed into the arachnoid spaces, there setting up a low grade

STATE DEPARTMENT OF HEALTH

Walter L. Biering

IOWA COMMUNICABLE DISEASE SUMMARIES

Measles: The high incidence of measles continues in Iowa with many severe cases being reported. Since December through March 15 the State Department of Health has distributed 21,683 cc. of Red Cross gamma globulin to Iowa physicians. While some of the gamma globulin is used for prevention, much has been used to decrease the severity of the disease. Reports from physicians uniformly commend the use of gamma globulin, particularly in modifying measles illnesses.

Rabies: A 10 week check shows that rabies continues at high levels in Iowa. The 38 animal cases have been distributed as follows:

Week Ending:		Rabies in Iowa to date 1950
Jan. 7.....	2	Boone 3
14.....	3	Buena Vista 1
21.....	3	Calhoun 2
28.....	6	Cedar 2
	—	Clay 1
Jan. total	14	Delaware 1
		Des Moines 1
Feb. 4.....	2	Dickinson 2
11.....	6	Dubuque 1
18.....	4	Jasper 1
25.....	6	Johnson 2
	—	Madison 2
Feb. total	18	Marshall 2
		Muscatine 1
March 4.....	0	Page 1
11.....	6	Polk 4
	—	Poweshiek 1
March total	6	Scott 2
		Story 4
		Tama 2
		Wayne 1
		Wright 1
		Total as of March 11, 1950 38
		Total as of March 12, 1949 57

Poliomyelitis: The week of February 25 was Iowa's first week without a report of poliomyelitis since the week of Jan. 7, 1950, and is in keeping with poliomyelitis rates for the entire United States. Late February or early March usually marks the low incidence period for the disease throughout the country. To date, 30 Iowa cases have been reported for 1950, compared with 11 for the same period of 1949.

The list of reported cases of poliomyelitis by week and by county is as follows:

Week ending:		Poliomyelitis in Iowa to date		
		1950		
Jan.	7.....	0	Adair	1
	14.....	3	Black Hawk	2
	21.....	4	Clinton	1
	28.....	5	Dallas	1
		—	Fayette	1
Jan. total	.....	12	Franklin	1
			Grundy	1
Feb.	4.....	3	Henry	5
	11.....	8	Johnson	1
	18.....	2	Lee	5
	25.....	0	Marion	1
		—	Page	1
Feb. total	.....	13	Polk	4
			Scott	1
March	4.....	1	Sioux	2
	11.....	4	Taylor	1
		—	Van Buren	1
March total	.....	5		—
		Total as of March 11, 1950		30
		Total as of March 12, 1949		11

It will be noted that almost all of the cases are from the east-central, southeast and southern parts of the state where poliomyelitis has not appeared in epidemic prevalence since 1939 or 1940.

NUTRITION EDUCATION PAYS DIVIDENDS

Nutrition education in Iowa pays dividends as shown by surveys of dietary habits of over 700 rural and city children, with dietary data obtained before and after a nutrition education program. The study comparing 400 city and 300 rural school children in a west-central Iowa county was made under the direction of Mrs. Helen Lovell, state nutritionist.

Preliminary briefing and planning meetings were held with teachers, school officials, nurses and other interested workers. All features of the program were explained to these groups, even including an interpretation of the scoring of the diets.

The study consisted of three phases: (1) the original three day diet record survey made in the fall of 1948, (2) the subsequent nutrition education program carried out by the people of the community, and (3) the three day resurvey in the fall of 1949 made to measure the effects of the educational program.

While the diet records of the original survey showed nearly half of both groups (city and rural children) were eating poor diets, the resurvey

Summary of Dietary Survey Before and After Nutrition Education

CLASSIFICATION OF DIETS	Rural Children				City Children			
	1st Survey	2nd Survey	1st Survey	2nd Survey	1st Survey	2nd Survey	1st Survey	2nd Survey
	Good		Poor		Good		Poor	
General Diet.....	21%	48%	45%	27%	24%	44%	48%	26%
Breakfasts.....	8%	12%	25%	17%	4%	13%	35%	18%
FOOD GROUPS								
Green and Yellow Vegetables.....	Pupils Rep't Recommended Amount		Pupils With No Serving		Pupils Rep't Recommended Amount		Pupils With No Serving	
	9%	18%	49%	34%	23%	29%	25%	25%
Citrus Fruits.....	63%	62%	12%	10%	48%	56%	17%	14%
Potatoes.....	85%	87%	1%	1%	77%	85%	1%	2%
Other Fruits and Vegetables.....	42%	53%	7%	7%	23%	46%	22%	9%
Milk.....	29%	46%	22%	9%	47%	48%	10%	9%
Meat.....	79%	86%	1%	1%	82%	95%	1%	0%
Eggs.....	48%	71%	19%	7%	56%	67%	13%	7%
Bread and Cereals.....	79%	91%	3%	0%	61%	81%	3%	2%
Butter and Margarine.....	47%	61%	12%	9%	47%	54%	14%	9%

made after the nutrition education campaign showed marked dietary improvement. Almost half, or 42 per cent of the city and 45 per cent of the rural children, showed some improvement in their eating habits during the period of nutrition education. Twenty per cent more of the city children and 27 per cent more of the rural children were eating good diets. (See attached chart.)

City children showed substantial improvement in all food groups except milk and green and yellow vegetables, in which there was only a slight improvement. The number of children reporting recommended amounts of all other food groups increased considerably, especially those using satisfactory amounts of other fruits and vegetables, and bread and cereals. Some improvement also occurred in the breakfast meal, as more were eating good breakfasts and 17 per cent less were eating poor breakfasts.

Rural children made substantial improvement

in all food groups. More children reported eating recommended amounts of all food groups in the second survey than in the first, except citrus fruits. Eggs showed the largest increase, then milk, butter and margarine, bread and cereals and other fruits and vegetables.

There was a greater decline in the percentage of rural children that reported no servings of food groups in the second survey than was true for city children. The rural children showed the greatest decline in no servings of green and yellow vegetables, milk and eggs. This may be partially attributed to the fact that most rural children had the foods available but had not eaten them, but many city children could not get them at home. Of course, deep-seated food habits are also an influencing factor.

In general, the nutrition education program did result in substantial improvement in eating habits of both city and rural children.

MORBIDITY REPORT

Diseases	Feb. '50	Feb. '49	Jan. '50	Most Cases Reported From:
Diphtheria	0	2	2	.....
Scarlet Fever	57	171	50	Black Hawk, Dubuque, Polk, Linn
Typhoid Fever	0	0	2	.....
Smallpox	0	0	0	.....
Measles	795	109	656	Adair, Emmet, Johnson, Linn
Whooping Cough	34	19	36	Des Moines, Scott, Woodbury
Brucellosis	8	29	15	Scattered
Chickenpox	279	503	318	Boone, Dubuque, Linn, Montgomery
Influenza	1	2	1	Boone
Meningitis	4	2	5	Carroll, O'Brien, Winneshiek, Polk
Mumps	360	507	248	Bremer, Des Moines, Montgomery, Story
Pneumonia	8	16	8	Polk, Webster
Poliomyelitis	13	3	12	Henry, Lee, Polk
Rabies in Animals.....	18	27	14	Carroll, Madison, Tama
Tuberculosis	37	45	56	For the state
Gonorrhea	52	61	50	For the state
Syphilis	143	128	181	For the state

The JOURNAL of the Iowa State Medical Society

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Annual Medical School Issue

This issue of the JOURNAL, as is the annual custom, presents to its readers articles prepared by the College of Medicine of the State University of Iowa. Two distinguished members of the medical faculty have been chosen for special mention this year, Dr. Nathaniel G. Alcock and Dr. C. S. O'Brien. It is peculiarly fitting that honor be accorded to these professors who have contributed so greatly to the development of the College of Medicine.

The committee in charge of this issue has presented a symposium on the topic of infant feeding. These contributions reflect the high standards which have signalized the advancement of medical knowledge for which our medical school is generally recognized.

It is an opportune time to congratulate the executive committee which is serving the interests of the medical school so effectively in the absence of a regularly appointed dean. The State Medical Society is gratified that this committee has been able to function with the high degree of harmony and cooperation so necessary for the school's development.

It is also gratifying to note that the medical school is advancing its program for general practice residencies. Attractive literature has been prepared to stimulate interest in this program. Six students will be accepted to begin July 1, 1950. Further acceptance of candidates each year will depend upon the demand for this particular instruction. Applicants must have a general rotating internship at an approved hospital before

becoming eligible for admission. Such a program is calculated to produce well trained general practitioners so sorely needed in Iowa.

The JOURNAL takes this opportunity of thanking the committee which has prepared this issue; Dr. J. S. Gottlieb served as chairman, and the members included Drs. Johann Ehrenhaft, R. M. Featherstone and E. W. Scheldrup.

New Psychiatric Services

The State Board of Control is now in a position to offer additional psychiatric services to the citizens of Iowa through the facilities of its state hospitals. In the past a citizen had to appear first before a county Commission of Insanity before he could receive psychiatric attention. Now, if any resident of the state feels the need for psychiatric help, he has only to call the superintendent of either the Clarinda or the Independence State Hospital to ask for an appointment. In time, we plan to offer this service at the other hospitals. At the appointed hour he comes to the hospital with a relative and is seen in a specially set-apart portion of the hospital by one of the staff psychiatrists. At the same time the relative is interviewed by one of the social workers, in order that a full and complete history may be taken. If indicated, a psychological study and a physical examination of the patient will be done. When these studies are completed, the assembled data are placed in the hands of the psychiatrist, who then discusses with the patient the findings and recommendations of the examining team. If the patient's condition is such that the treatment can be carried out on an ambulatory basis, then an appointment is made. These treatments are continued on an outpatient basis as long as they are indicated.

If at any time hospitalization is required, the patient may enter as an inpatient on a voluntary commitment. If the patient does not see the need for hospitalization when required and refuses to sign the voluntary blank, then the relatives are advised to take him before the Commission of Insanity of his own county and have him committed by the regular legal procedure. Up to the time of this writing, anyone who desired to enter as a voluntary patient was received on the regular admitting wards of the hospital. It is hoped that in a short while the opening date for the new inpatient service at the Independence State Hospital can be announced. This service will be reserved for those cases that give promise of responding to short term treatment and that have been seen originally in the outpatient service or else have been previously examined in the other sections of the hospital. The wards set aside for

this purpose have recently been redecorated and refurnished and will be operated by funds provided by the Fifty-Third General Assembly for such purposes. A nominal fee will be charged for those who can afford it, but no one will be refused because of an inability to pay. As experience is gained at Independence, it is hoped that similar setups will be provided in the other state hospitals.

What Will the Hospital Building Program Entail?

Concrete results of the Hill-Burton Hospital Construction Act may already be seen in Iowa. Many counties now have new hospitals in the process of construction; a few have completed structures which are already functioning. These augur well for an improved medical service to the people of the state. Young physicians will be attracted to locations where hospital facilities are available; the present physicians will be able to render better service more conveniently and efficiently than they have in the past.

With these benefits, however, go many responsibilities. The community itself must pledge its support to the hospital once it is completed. Blue Cross and Blue Shield insurance are a powerful bulwark in this respect, and it is hoped that many more Iowa citizens will enroll in these plans if possible, and if not, that they will take advantage of commercial insurance companies which offer accident and health protection.

It follows, then, if the hospitals receive the support of the citizens, there is going to be a greatly increased demand for medical technicians, for nurses, for x-ray and pathology services on a part time basis at least, and in the larger hospitals for dietitians. The state is already faced with an inadequate supply of nurses; medical technicians are not plentiful; and the other services are also not easy to obtain.

Are we as a medical profession aware of the fact that our services may be handicapped by the above mentioned shortages? Are we doing anything as an organization to point out the essentials of a well-equipped team? Should we not, at this our hundredth meeting, take stock of the situation and pledge ourselves to act as leaders in our community in acquainting the public with what is necessary to give them the best health service? And would it not be well, also, for us to strive to make all of these hospitals worthy of accreditation by the American College of Surgeons? The rules it prescribes for all hospitals entail the maintenance of proper records and adherence to high standards of treatment. That is what we want the people of Iowa to have.

Diseases of the Pancreas

Recently, renewed interest has become manifest on pancreatic disease, its diagnosis and treatment. This increased interest in diseases of the pancreas is very commendable and should be encouraged.* For many years the pancreas has been all but forgotten as a source of disease and pathologic change. This is true for several reasons. Changes in the pancreas that result in altered endocrine function are fairly well understood, and the use of insulin has made the treatment somewhat easier. The laboratory tests for this function are well standardized and yield good results. The diseases which affect the exocrine function are not too well understood; the results of laboratory tests leave much to be desired; and the methods of treatment are not entirely satisfactory. Also, such disease is not easily approached surgically. Therefore, the diagnosis of disease of the pancreas has been made only after all other possibilities are exhausted or is considered as an afterthought.

A renewed interest in disease of the pancreas should be encouraged. There will be increased interest in the physiology and pathology, and this should lead to the development of better, more conclusive laboratory tests. This will be followed by earlier, more accurate diagnoses and finally a more rational therapeutic regime.

Effective Cancer Control

The American Cancer Society, through its national office in New York, its 61 chartered divisions and 2,613 county branches, conducts a year-around effort to control cancer, one of the foremost medical problems confronting us. The Society recognizes that the control of cancer eventually will come through an understanding of its causes, the means of prevention and effective treatment methods, and thus spends 25 per cent of its income in the support of intensified investigative efforts and in the training of young scientists to carry them forward. During the present year this support amounts to three and one-half million dollars. The total research expenditure for the past five years is over thirteen million dollars.

A substantial measure of control over cancer can be achieved today with the knowledge already at hand through education. The disparity between cancer's curability and the cures being achieved is striking. For example, cancer of the breast is curable in 80 per cent of patients who are treated when the disease is confined to the

*Your attention is directed to the Clinicopathologic Conference reported in this issue on page 176.

breast; yet the country-wide cure rate is less than 35 per cent. When cancer of the rectum is confined to the mucosa, cure rates of 70 per cent have been reported; yet the over-all rate of cure is about 11 per cent. Similar differences hold for most forms of the disease. In order to remedy this discrepancy and achieve a larger measure of cures, the American Cancer Society engages in an intensive educational and publicity campaign, based on knowledge of cancer's early signs and symptoms and the value of periodic physical examinations.

April is the month when the American Cancer Society makes its annual appeal to the public for support of its programs. As more and more of our people live longer, the incidence of cancer increases. As the problem becomes more widespread, so must the effort to control the disease be intensified.

Improved services to patients with cancer are provided by support of cancer clinics, organized programs of cancer detection and information services; these efforts are augmented by a corps of volunteers who provide transportation services, recreational activities and dressings.

Of particular interest to physicians is the professional education program. During the past year three monographs of a series dealing with cancer by anatomic site have been distributed to practicing physicians throughout the country. The series will be continued this year, with distribution at three month intervals.

The professional journal *Cancer*, which first appeared in May 1948, has been well received by clinicians and investigators interested in the problems of abnormal growth. A series of motion pictures for professional audiences, treating the problems of early diagnosis of cancer by anatomic site, has been outlined, two of which have been released and a third is in preparation.

A new bi-monthly publication of the Society will appear this year which will present in digest form topics of interest to the general practitioner together with brief abstracts of significant papers appearing in the literature. Planned for the busy physician, clarity, brevity and general interest will be stressed.

The library of the Society publishes monthly a bibliography of the current cancer literature, which is available to physicians, research workers and libraries. The library will also prepare bibliographies on any topic related to the field of cancer. A package lending library has been established which will supply reprints on a loan basis.

Color Television in Medical Education

Color television as a new medium in medical teaching had its first demonstration at the annual session of the American Medical Association in Atlantic City last June. The first in a nationwide series sponsored by Smith, Kline and French Laboratories, this demonstration was followed by others at meetings of the Colorado State Medical Society, The American College of Surgeons, the American Cancer Society, the A.M.A. Clinical Session, the Atlanta Graduate Medical Assembly, the Chicago Medical Society, and the Missouri State Medical Association. The American College of Physicians will see a demonstration in Boston in April, the State Medical Association of Texas at Fort Worth in May and the American Medical Association in San Francisco in June.

Color television enables sizable groups of students to see intimately the pathologic lesion, to watch at close range skillfully performed surgical technique, and to hear the surgeon's commentary simultaneously transmitted by microphone, thereby overcoming the objections of the classic surgical amphitheater where the student can see little, if anything, and often has difficulty in hearing the surgeon's discussion. It saves valuable space in eliminating student's galleries in operating rooms. Another advantage of color television is that the student gains invaluable knowledge by observing how a surgeon overcomes unexpected obstacles or emergencies as they arise. Neither the amphitheatre nor black-and-white television permits the immediate observation of color gradations in the deeper recesses of body cavities and of the changes in human tissue during the course of an operation that color television affords.

Clinical medicine as well lends itself to successful televising, and the programs thus far presented have been divided equally between surgery and medicine. In summary, these advantages of the new teaching medium indicate there is little doubt that color television will assume an important role in medical education.

Two out of three doctors now setting up practice in Iowa go to the small community rather than the city.

No Iowa family is now more than 15 to 20 miles away from a doctor, with few possible exceptions, though 33 towns are still asking for a doctor.

There are approximately 102 doctors for every 100,000 persons in Iowa, against a national average of 140.

The state now has 2,600 active physicians and more than 400 osteopaths.

President's Page

The scepter of state medicine is still before us, and while we have made credible gains during the past year, yet there is much and even more to be done during the coming months. The Washington socializers have no hope of accomplishing very much during the present session of Congress, but they are going all out in the coming elections in an endeavor to change the complexion of Congress in their favor.

At our state meeting next month the House of Delegates will have some very important matters brought before them that should be fully discussed and decisions made. It may be necessary even to have an extra meeting during the session.

General Manager: The meeting of the House of Delegates in January adopted the general manager proposition. I think this is the biggest advance that the Society has made in many years, and certainly from this we have every reason to expect results.

Reactivation of the Council: As I have told you before, this is something that is very, very much needed and something that cannot be accomplished overnight. It is going to take several years to really get this ball rolling. The important thing in this connection that will come before the House of Delegates is the election of Councilors. That is the first step in the reactivation. I cannot urge the delegates too earnestly to be sure to select men for these posts who are fitted for them and particularly who are willing to give the time and effort to carry out their serious responsibilities.

Grievance Committee: At the present time a committee is investigating the different schemes for grievance committees, and I am sure they will have ready for the deliberation of the House of Delegates one or more different types of setups for such an organization. We need such a committee, and this need should be given thorough consideration through discussion and a wise plan adopted.

Guest Speaker: The guest speaker at our annual banquet will be Dr. Franklin D. Murphy, dean of the Medical School of the University of Kansas. He is particularly interested in medical education that will give students an insight into the problems of the general practitioner, and that will train them for that work and direct them into that field.

Nathaniel G. Alcock, M. D.

President, Iowa State Medical Society

ARE YOU GOING TO THE AMA MEETING IN SAN FRANCISCO?

If you plan to attend the AMA meeting in San Francisco the last week in June you may be interested in different plans of transportation which have been suggested to us.

United Air Lines in Des Moines announces that if enough reservations are secured from Des Moines a special flight will be established. If you are interested in this, write or call Miss Ruth Uhl, United Air Lines, 411 Sixth Avenue, Des Moines.

The Illinois State Medical Society has invited Iowa physicians to join its special train which leaves Chicago via Burlington Railroad on Wednesday, June 21, at 11:15 a.m. There is a stopover in Denver on June 22, in Salt Lake on June 23, at Elko that same evening, and then to San Francisco, arriving Saturday, June 24. The return trip leaves San Francisco Friday, June 30, includes a motor trip to Monterey, a two day stopover in Los Angeles, and return to Chicago by way of the Grand Canyon. Write Mr. W. M. Moloney, GAPD, Burlington Route, Room 711, 105 West Adams St., Chicago 3, Ill., for details of this trip.

American Express is also setting up trips, and information about them can be obtained from Mr. W. R. Bateman, APTM, American Express Company, 178 North Michigan, Chicago 1, Ill.

The fourth agency interested in arranging a trip for you is the United States Travel Agency, 807 15th Street N.W., Washington 5, D. C. Its itinerary is similar to that of the Illinois State Medical Society, but leaves Chicago one day later.

None of these agencies has been officially approved by the Iowa State Medical Society, but we feel their tours may be of interest to Iowa physicians.

CLINICOPATHOLOGIC CONFERENCE

(Continued from page 183)

inflammatory reaction, and that some diffuse intracerebral gliosis has been established. The gross findings are confirmable microscopically.

To be sure, this neuropathologic process is not one that can be lightly imputed to shock therapy, for other degenerative and inflammatory agents are known to be capable of producing a similar picture. However, two considerations merit special notice: (1) that such findings are not part of the pathology of the psychosis itself (prior to the inception of shock therapy they were seldom found in young psychotics), and (2) that they are not commonly encountered in subjects of comparable age undergoing prefrontal lobotomy for the relief of intractable suffering (that is, those who have had no psychosis and no shock therapy). The evidence permits no dogmatic assertion on the point, but I will venture to say the probability is high that repeated shock therapy plays a large role in precipitating these brain changes.

HOUSE OF DELEGATES MEETING

The first meeting of the House of Delegates will be held Sunday evening, April 23, in the West Ball Room of Hotel Burlington at 8:00 p.m. The second meeting will be held Wednesday morning, in the same place, at 8:00 a.m. Any member of the State Society may attend these meetings, although only official delegates and officers may vote.

ANNUAL MEETING

Iowa Medical Service

The annual meeting of Iowa Medical Service, to which all participating physicians are invited, will be held in the West Ball Room of Hotel Burlington on Wednesday morning, April 26, at 9:30 a.m., following the meeting of the House of Delegates. Plan to attend.

SPRING ESSAY AWARD CONTESTS

Kansas City Southwest Clinical Soc.—\$500, \$100 & \$50 to intern or resident paper written during hospital service in this area. Apply by April 15, 1950, with hosp. supt. endorsement (papers due Aug. '50) to 630 Shukert Bldg., Kansas City 6, Mo.

Mississippi Valley Medical Soc.—\$100 for best unpublished essay on any subject of general medical interest. U. S. & AMA mbrs. 5,000 words. Submit 5 copies by May 1, 1950, to Harold Swanberg, M.D., Secy., 209-224 W.C.U. Bldg., Quincy, Ill.

Am. College of Chest Physicians—\$250 for best contribution relating to chest disease. Foreign & U. S. Submit 5 copies by May 1, 1950, to 500 N. Dearborn St., Chicago 10, Ill. Identify paper by motto on title page & sealed envelope bearing same motto on the outside, enclosing name of author(s).

Natl. Gastroenterological Assn.—\$100 for best unpublished contribution on G-E; AMA mbrs., 5,000 words. Submit 5 copies & entry ltr. by June 1, 1950, to 1819 Broadway, New York 23, N. Y.

SPEAKERS BUREAU RADIO SCHEDULE

WSUI—Tuesdays at 11:30 a.m.

WOI—Thursdays at 11:15 a.m.

April 4-6 Newer Drugs—Antibiotics
Harold Margulies, M.D.
Des Moines

April 11-13 Diabetes—Detection
Thomas Scales, M.D.
Des Moines

April 18-20 Diabetes—Treatment
George Crow, M.D., Burlington

April 25-27 Medical Education Today
Speaker not yet scheduled

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

A CENTURY OF MEDICINE IN JACKSONVILLE AND DUVAL COUNTY—By *Webster Merritt, M.D.*, Jacksonville, Fla. University of Florida Press, Gainesville, 1949. Price \$3.50.

CURRENT THERAPY 1950; Latest Approved Methods of Treatment for the Practicing Physician—Editor: *Howard F. Conn, M.D.*, and 12 Consulting Editors. W. B. Saunders Co., Philadelphia, 1950. Price \$10.00.

THE CYTOLOGIC DIAGNOSIS OF CANCER—By the *Staff of the Vincent Memorial Laboratory* of the Vincent Memorial Hospital, a Gynecologic Service Affiliated with the Massachusetts General Hospital, Boston, Mass.; The Department of Gynecology, Harvard Medical School. Published under the Sponsorship of the American Cancer Society. W. B. Saunders Co., Philadelphia, 1950. Price \$6.50.

FRACTURES—By *Paul B. Magnuson, M.D., F.A.C.S.*, Professor of Bone and Joint Surgery and Chairman of the Department, Northwestern University Medical School; Attending Surgeon, Passavant Memorial Hospital and Wesley Memorial Hospital, Chicago; and *James K. Stack, A.B., M.D., F.A.C.S.*, Assistant Professor of Bone and Joint Surgery, Northwestern University Medical School; Attending Surgeon, Passavant Memorial Hospital and Cook County Hospital, Chicago. Fifth Edition. J. B. Lippincott Co., Philadelphia, 1949. Price \$7.00.

MEDICAL MANAGEMENT OF GASTROINTESTINAL DISORDERS—By *Garnett Cheney, M.D.*, Clinical Professor of Medicine, Stanford University Medical School. The Year Book Publishers, Inc., Chicago, 1950. Price \$6.75.

MITCHELL-NELSON TEXTBOOK OF PEDIATRICS—Edited by *Waldo E. Nelson, M.D.*, Professor of Pediatrics, Temple University School of Medicine; Medical Director of St. Christopher's Hospital for Children; with the Collaboration of *Sixty-three Contributors*. Fifth Edition. W. B. Saunders Co., Philadelphia, 1950. Price \$12.50.

POSTGRADUATE GASTROENTEROLOGY As Presented in a Course Given Under the Sponsorship of the American College of Physicians in Philadelphia December 1948.—Edited by *Henry L. Bockus, M.D.*, Professor of Gastroenterology, University of Pennsylvania Graduate School of Medicine. W. B. Saunders Co., Philadelphia, 1950. Price \$10.00.

PRIMER OF ALLERGY—By *Warren T. Vaughan, M.S., M.D.*, Richmond, Va. Third Edition. Revised by *J. Harvey Black, M.D.*, Dallas, Texas. C. V. Mosby Co., St. Louis, 1950. Price \$3.50.

SEXUAL DEVIATIONS: A Psychodynamic Approach—By *Louis S. London, M.D.*, Diplomate, American Board of Psychiatry and Neurology; and *Frank S. Caprio, M.D.*, Member, American Psychiatric Association. With a Foreword by *Nolan D. C. Lewis, M.D.*, Professor of Psychiatry, College of Physicians and Surgeons, Columbia University; Director, New York State Psychiatric Institute and Hospital; Editor, *The Psychanalytic Review*. The Linacre Press, Inc., Washington, 1950. Price \$10.00.

SKIN GRAFTING—By *James Barrett Brown, M.D.*, Professor of Clinical Surgery, Washington University School of Medicine; Chief of Plastic Surgery, Veterans Administration; Former Senior Consultant in Plastic Surgery, U. S. Army; Chief of Plastic Surgery, Valley Forge General Hospital; and *Frank McDowell, M.D.*, Assistant Professor of Clinical Surgery, Washington University School of Medicine, St. Louis, Mo. Second Edition. J. B. Lippincott Co., Philadelphia, 1949. Price \$7.50.

THE 1949 YEAR BOOK OF DRUG THERAPY (November 1948-October 1949)—Edited by *Harry Beckman, M.D.*, Director, Department of Pharmacology, Marquette University School of Medicine. Year Book Publishers, Inc., Chicago, 1950. Price \$4.75.

BOOK REVIEWS

Textbook of Genito-Urinary Surgery, edited by *H. P. Winsbury-White, M.B., Ch.B., F.R.C.S. (Edin.), F.R.C.S. (Eng.)* (Williams & Wilkins Co., Baltimore, \$20.00), contains the contributions of 40 separate authors, which gives the reader a broad viewpoint as to the manner in which urology is practiced in England. It is an especially excellent reference book, as each subject is handled in a short and concise manner, making easy reading. There are 12 chapters concerning the prostate, in which all of the various surgical procedures for its removal are thoroughly dealt with in an unbiased fashion. Both practicing urologists and nonspecialists should find it of extreme interest.—C. W. Latchem, M.D.

Diseases of the Heart, by *Charles K. Friedberg, M.D.* (W. B. Saunders Co., Philadelphia, \$11.50), ranks high among recent textbooks in the field of heart disease. Understanding of normal and abnormal physiology of the heart has grown rapidly in recent years, speeded by the introduction of such new methods of clinical study as cardiac catheterization and angiocardiology. As a result, many of the standard textbooks on heart disease are no longer adequate. This new work places special emphasis on the pathogenesis and the pathologic physiology of cardiac disorders, while retaining an eminently clinical

viewpoint. Wherever possible, there has been an attempt to substitute clinical measurements and physiologic studies for the empiricism with which earlier writers discussed many phases of heart disease. The increasing emphasis on surgery for the correction of accurately diagnosed congenital heart lesions is also reflected in this book.

The first quarter of the book is devoted to a veritable monograph on circulatory failure. The second section deals with the cardiac arrhythmias, the third with the coronary circulation and disturbances in cardiac blood supply, the fourth with structural abnormalities of the heart, and a fifth with the etiologic forms of heart disease. The concluding part discusses such special problems as pregnancy, surgery, insurance and medicolegal questions in the cardiac patient.—H. J. Smith, M.D.

The Practice of Refraction, by *Sir Stewart Duke-Elder, K.C.V.O., M.A., D.Sc. (St. And.), Ph.D. (Lond.), M.D., F.R.C.S., Hon. D.Sc. (Northwestern)* (C. V. Mosby, St. Louis, \$6.25), is a small yet complete book in its fifth edition dealing with refraction, refraction errors and their correction in a most readable, understandable and informative manner. The presentation of symptoms, optical, visual and referred, is especially well done. Myopia is considered,

etiologically, to be essentially predetermined and constitutional and usually only partially and secondarily influenced by overuse or abuse of the eyes. Special type protective, corrective and occupational aids are discussed.—J. H. Matheson, M.D.

Clinical Examination of the Nervous System, by G. H. Monrad-Krohn, M.D., F.R.C.P. (Paul B. Hoeber, Inc., New York City, \$5.00), in its ninth edition, is not intended as a neurologic textbook, the author states, and goes further to say it has been written "from clinic to clinic." The material is based on his personal experience in the use of diagnostic criteria and various methods of eliciting neurologic information. The illustrations depict interesting and varied neurologic entities. Of special interest in this last edition is the inclusion of a short orientation of electroencephalography. In the appendix he presents the applied use of the Binet-Simon tests for the evaluation of mental ability. The book also contains a number of angiograms, encephalograms and ventriculograms correlated with diagnoses and case histories. In the author's own words is summed up the appeal which a book of this sort should have for every type of medical practitioner, "As the nervous system has a central place in the organism, with close functional relations to all other organs, so neurology rightly holds a central position in medicine in close relation not only to internal medicine and psychiatry but to all branches of general medicine."—John Uchiyama, M.D.

Clinical Pathology, Application and Interpretation, by Benjamin B. Wells, M.D., Ph.D. (W. B. Saunders Co., Philadelphia, \$6.00), should fill a need for a short but complete interpretation of laboratory tests and their application in clinical medicine and can be highly recommended. The author has assembled the most used laboratory tests so that the results can be used to answer the clinician's questions. The book is arranged into nine chapters which deal with application of clinical pathologic methods in infections, gastrointestinal disease, respiratory system, urinary tract, blood cardiovascular system, general surgery and obstetrics. The appendix discusses laboratory aids in symptom diagnosis and lists normal values. Tables and charts present the material concisely and accurately and provide a rapid guide for judging laboratory results. Only a few specific references are given, but the literature of clinical pathology has become so voluminous that it is best omitted from such a text.—E. A. Fullgrabe, M.D.

X-Ray Treatment, Its Origin, Birth and Early History, by Emil H. Grubbe, B.S., M.D., F.A.C.P. (Bruce Publishing Co., St. Paul & Minneapolis, \$3.00), a small volume of 153 pages, is a worthy contribution to the early history of the development of the x-ray and x-ray equipment. The author's role in the development is obviously and repetitiously brought to the foreground and would be more believable if not attested so much in the first person;

but his claims are worthy of review, and the volume is worth your perusal.—H. J. Peggs, M.D.

From the Hills, An Autobiography of a Pediatrician, by John Zahorsky, M.D. (C. V. Mosby Co., St. Louis, \$4.00), is a delightful life story written by one of America's best-known pediatricians. Many will remember the author from his connection with Zahorsky's disease, or roseola infantum, which he first described as a clinical entity in 1910. He has also written a pediatric textbook and a large number of articles for medical journals. However, Dr. Zahorsky's autobiography is not a view of the development of medicine over the past 50 years but rather an account of his own philosophy and how it was influenced by certain of his friends, by religion, and by his love of children and of the out-of-doors. It depicts the struggles of a poor boy from the Ozark hills to obtain an education, both academic and professional, and later on to develop a practice in one of our large cities. The reader will be impressed, as was the reviewer, by the breadth and depth of the author's culture, which of necessity had to be largely self-acquired. It is good reading for the medical student and the physician as well as for the lay person.—L. F. Hill, M.D.

A Year With Osler 1896-1897, Notes Taken at His Clinics in the John Hopkins Hospital, by Joseph H. Pratt, M.D. (John Hopkins Press, Baltimore, \$4.00) Of the many publications that have appeared commemorating the centenary of William Osler's birth, July 12, 1849, this interesting volume by one of his students of 50 years ago adds some interesting facets to the remarkable personality of this great physician. It portrays Osler as the teacher in the classroom, in the wards and at his best at the bedside. It presents a remarkable collection of notes of cases presented, of talks with students, and philosophic discussions that retain their original freshness and contain much of value to the physician and student of today.—W. L. Biering, M.D.

A Textbook of Neuropathology, With Clinical, Anatomical and Technical Supplements, by Ben W. Lichtenstein, B.S., M.S., M.D. (W. B. Saunders Co., Philadelphia, \$9.50), should prove an excellent reference for the neuropsychiatrist, neurosurgeon or pathologist. After presentation of brief introductory considerations, this well organized and lucidly written text concerns itself with degenerative diseases, inflammatory processes, hemorrhagic and vascular disorders, hydropic changes, hyperplasia in the nervous system, neoplasms, malformations, deformities and metabolic disturbances, as well as muscular disorders and related states. Three supplementary chapters tend to round out the text. The first is a consideration of syndromes, paralyzes and uncommon diseases; the second is a brief neuroanatomic summary, and the third is a well selected collection of neuropathologic technical methods. Illustrations are numerous and excellent. The bibliography, appended to each chapter, is arranged by topics for ready use.—R. F. Birge, M.D.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. ROGER M. MINKEL, Fort Dodge

President-elect—MRS. CLAIRE H. MITCHELL, Indianola

Secretary—MRS. IVAN K. SAYRE, St. Charles

Treasurer—MRS. WILLIAM B. CHASE, JR., Des Moines

Corresponding Secretary—MRS. CHARLES H. COUGHLAN, Fort Dodge

LINES FROM THE PRESIDENT

Soon after this issue of the Auxiliary News reaches our members I shall have the pleasure of greeting many of you in person when we assemble at our Twenty-First Annual Meeting in Burlington. We shall meet to report on the accomplishments of the past year and to gird ourselves for greater performance in the future.

It has been most gratifying to see the wholehearted support you have given to the objectives of our organization. The work that is done by women on the community level is the best evidence of its value.

There are always higher goals to be reached. It is by convening together at the Annual Meeting that we can set new goals and plan the means to achieve them. One of the goals which should be emphasized more is citizenship responsibility. We speak of the privileges of citizenship, the blessed freedom which we enjoy as citizens of this great country, but we must realize that every privilege carries its own responsibility. One responsibility which we too often neglect is that of the ballot. Our republic, to survive, must have a truly representative government, and that success depends on the quality of the active electorate. The fact that in some communities doctors and their wives are not even registered to vote does not reflect favorably upon us. All the evils of government, all the dangers of false leadership, flow from the lethargy of men and women who do not exercise those rights for which many have sacrificed their lives.

It was the hope of freedom which formed our government. It was our government which expressed faith in the individual in a free enterprise system which has made our way of life unique in the annals of history. Our government is the wonder of the world. It is the evidence upon which we can firmly base our faith in ourselves. We should not be afraid of the future, for if we have faith in ourselves, we may succeed in seeing the reality of "the substance of things hoped for," the inevitable triumph of good. Let us adjust our sights and carry on the program of the Auxiliary!

Mrs. Roger M. Minkel

ACTIVITIES OF COUNTY AUXILIARIES

The Polk County Medical Auxiliary met February 24 at Younkers Tea Room for luncheon. There were 60 members present. Dr. Lee F. Hill, president of

the Polk County Medical Society, discussed the importance and usefulness of the Auxiliary. Mrs. F. E. Ash, accompanied by Mrs. Martha Troub, sang.

Mrs. W. B. Chase, Jr.

The Delaware County Medical Auxiliary had dinner with the doctors at the Glen Charles Hotel on February 15. Mrs. Kenneth Coltman and Miss Nellie McLaren were guests. Miss McLaren, administrator for the new hospital, talked to the doctors. Mrs. Coltman reviewed the book *Playtime is Over*. Members of the Auxiliary reviewed two chapters of *The Road Ahead*.

Mrs. James K. Stepp, Sr.

Dr. and Mrs. W. V. Thornburg and Dr. and Mrs. D. W. Todd entertained 20 members of the Dallas-Guthrie Medical Society and Auxiliary at dinner at the Thornburg home in Guthrie Center March 5. Bridge provided entertainment after dinner, and all enjoyed a purely social meeting.

Mrs. C. E. Porter

ANNUAL MEETING NOTES

The official call to the Annual Meeting of the Auxiliary has been mailed to every member. Reservation slips should be returned not later than April 15, so that committees of the Des Moines County Auxiliary may complete plans for your pleasure.

Mrs. P. L. Spencer of Essex and Mrs. E. B. Howell of Ottumwa have contacted county presidents and members-at-large and hope for a big attendance at the Tuesday morning breakfast.

Mrs. Leo J. Schaefer, national program chairman, will keynote the panel on "The Auxiliary at Work" on Monday afternoon. Dr. Ernest B. Howard, assistant general manager to the AMA, will give the opening talk at the panel on Tuesday. Dr. Howard has only recently been appointed by the board of trustees as liaison to the Woman's Auxiliary.

Auxiliary Headquarters has been busy compiling the reports of all officers, standing committee chairmen and county presidents for the mimeographed booklet to be presented at the Annual Meeting. "A Guide for County Presidents," which outlines Auxiliary work, will also be available.

PROGRAM SUGGESTIONS

For variety in program planning we suggest the pamphlet "237 Health Questions Answered." This pamphlet may be secured from AMA offices, 535 N. Dearborn, Chicago, Ill. It offers an opportunity for a whole group to participate in the program by the question and answer method. Programs on Auxiliary projects and on socialized medicine should not be omitted, but topics in other fields of health bring new color and interest to program planning.

There is such a mass of material available on socialized medicine that it would be impossible for one program chairman to keep completely informed. Since each Auxiliary member should be as thoroughly familiar with this topic as possible, and since doctors' wives are practically all leaders in their communities and belong to many organizations, we recommend the three short talks which have been prepared by Whitaker and Baxter for radio or club appearances. There is a thirteen minute talk (R-4), a four and one-half minute talk (R-5), and a three minute talk (R-6), all available from Whitaker and Baxter, National Campaign Directors, 1 N. LaSalle St., Chicago 2, Ill. Program chairmen would find it worthwhile to secure copies of each of these talks and perhaps build one program around all three, so that individual members might become informed and use the talks in other groups.

PUBLICATION PONDERINGS

Slowly, but surely, groups other than the medical profession are beginning to realize that federal control takes on the characteristics of an octopus. Mr. Kline disapproves of the Brannan Plan because he "believes it means severe regimentation for the farmers."

Laurence M. Gould, president of Carleton College, Northfield, Minn., in his booklet entitled "Federal Aid to Education," makes some statements that have a familiar ring:

"Federal aid is the foot-in-the-door technique to establish the principle of direct federal subsidy."

"Federal aid is now, and always has been, a misnomer. There is no such thing, for every dollar must come from the taxpayers in the 48 states. The federal government produces nothing. Federal aid means paying large brokerage fees to the federal bureaucrats for handling our own money for us."

"A federally subsidized system of education would make it much easier to bring up the young indoctrinated with the idea that this was the one and only way of life. Many phases of our lives are already socialized. Ours is already a semi-welfare state. We may have further socialized experiments in housing, medicine and other areas. . . . A federally controlled system of education would be the final irreversible step into a complete bureaucratic state. It would provide the perfect means for restriction of our liberties and the eventual strangulation of freedom."

Three American Medical School deans, who spent December and January in Great Britain, reported to the AMA that enormous war costs were responsible for nationalization of medicine in Great Britain, and they agreed that such an emergency health solution is unnecessary for the United States since we still "have the opportunity to work out our problems in a wise way, employing evolutionary methods." The deans were Dr. Harold S. Diehl, University of Minnesota; Dr. Loren R. Chandler, Stanford University; and Dr. Stanley Dorst, University of Cincinnati.

The main theme of the recent British election "was whether 'the welfare state' should operate with or without government ownership of industries." Socialized medicine was not an issue, and there will probably be no drastic changes in the medical plan by the Labor Party. However, "the 'go slow' sign hung by British voters is legible to American lawmakers. It should tend to slow up expansion of federal powers and controls."

J. S. Lawrence, M.D., in *Capitol Clinic* No. 9

The World Health Organization was formed a year and a half ago. Sixty-seven nations were represented in it at the end of 1949. Three regional offices are in operation in New Delhi, in Alexandria and at Washington, D. C. Other offices are being created.

"People who do things make mistakes, but don't make the mistake of doing nothing."

Mrs. K. M. Chapler

BLUE CROSS IN 1949

The Blue Cross Plan with headquarters in Des Moines finished the year 1949 with a total of 70,831 cases paid, on which members were allowed \$4,-513,653.71 on hospital care. The rate of admissions was 135 per 1,000 participants as compared to 131 in 1948. The average paid per case in our Blue Cross member hospitals was \$69.82 for the year. The average for the first half was \$69.30 and for the second half, \$70.35. The average cost per day in our Blue Cross member hospitals continues to increase. In 1947 it was \$9.14; in 1948, \$10.13; and the past year, \$11.32. One out of four persons in this area has Blue Cross protection. Des Moines and Polk Counties each have over 50 per cent of their residents covered. Mitchell, Chickasaw and Franklin Counties have the lowest number of members. In addition, Blue Shield paid approximately 21,380 cases the past year involving \$748,312.00.

Dr. Herbert E. Klarman, speaking on the Ginsberg report on the New York State Hospital Study, at the 1950 American Hospital Association Mid-Year Conference of Presidents and Secretaries, said one of the conclusions reached in this report was that the voluntary prepayment plans should be given a chance, but the enrollment must be speeded up to reach a much higher percentage, because if government is asked to make plans for those not so covered, the lower the number the less need there would be for government to go in at the policy-making level for hospital and medical care.

SOCIETY PROCEEDINGS

MEETINGS

Black Hawk

The regular meeting of the Black Hawk County Medical Society was held February 21 at the Elk's Club in Waterloo. Dr. H. C. Hesseltine, professor of obstetrics and gynecology, University of Chicago and the Chicago Lying-In Hospital, spoke on "Trends in Maternal Morbidity and Mortality."

The March meeting on the twenty-first was held in conjunction with the Auxiliary. The speaker was Dr. W. O. Thompson, clinical professor of medicine, University of Illinois, whose topic was "Uses and Mis-uses of the Sex Hormones."

Calhoun

The Calhoun County Medical Society met February 23 with members of the surrounding county medical societies as its guests. A symposium on the problems of hypertension from a medical neuro-surgical and psychiatric standpoint was conducted by SUI College of Medicine Drs. Paul E. Huston of the department of psychiatry, Walter M. Kirkendall of the department of medicine and George E. Perret of the department of neurosurgery.

Carroll

Dr. E. G. Zimmerer, director of the division of cancer control, State Department of Health, Des Moines, was the guest speaker at a meeting of the Carroll County Medical Society February 21 at St. Anthony Hospital in Carroll.

Cerro Gordo

The Cerro Gordo County Medical Society met March 14 in Mason City. A film, "Kidney Function in Health" was presented and then discussed by Dr. Harold Margulies of Des Moines.

Dubuque

Dr. Frank R. Peterson of Cedar Rapids was the guest speaker at the Dubuque County Medical Society meeting March 14. His address, "Surgical Diseases of the Pancreas," was illustrated by slides.

At the next meeting April 11, Dr. Arthur H. Conley, associate professor of orthopedics and attending surgeon at the Cook County Hospital in Chicago, will speak on "Fractures."

Experimental Biology and Medicine

Dr. Elmer L. DeGowin, associate professor of internal medicine at the SUI College of Medicine, was elected president of the Iowa branch of the Experimental Biology and Medicine Society at its meeting February 21. Dr. Ralph G. Janes, associate professor of anatomy at SUI, was re-elected secretary-treasurer. One new council member was named

—Dr. Warren O. Nelson, professor of anatomy in the College of Medicine.

The April meeting of the society will be held Friday, April 28, in Ames.

Franklin

Dr. Charles Burr of Des Moines spoke on "Recent Advances in Pediatrics" at a meeting of the Franklin County Medical Society February 21 at Hampton.

Hardin

Dr. Horace M. Korns of Iowa City addressed the Hardin County Medical Society March 14 on "The Treatment of Coronary Artery Disease."

Johnson

At the regular dinner meeting of the Johnson County Medical Society March 1 at Hotel Jefferson in Iowa City, Dr. C. M. Kos, SUI assistant professor of otolaryngology, spoke on "Surgical Treatment of Selected Types of Hearing Loss."

Kossuth

New officers of the Kossuth County Medical Society, elected at a meeting February 21, are: Dr. John N. Kenefick, president; Dr. Lee O. Snook, Jr., vice president; Dr. John M. Schutter, treasurer; Dr. Thomas J. Egan, censor and delegate; and Dr. Pierre Sartor, alternate.

Lee

Dr. LeRoy J. Dierker was elected president of the Lee County Medical Society at a meeting February 15 in the Anthes Hotel in Fort Madison. Dr. R. W. Speers was re-elected secretary, and Dr. Loira C. Pumphrey was named delegate, and Dr. Harold T. Werner, alternate.

Linn

The Linn County Medical Society held its regular dinner meeting March 9 at Hotel Roosevelt in Cedar Rapids. Dr. Alston Callahan, ophthalmologist from the Alabama College of Medicine in Birmingham, spoke on "Retina; Findings of Interest to the General Practitioner." Leader in the discussion following was Dr. G. L. Walker, SUI associate professor of ophthalmology, assisted by Dr. Carl A. Noe of Cedar Rapids.

Montgomery

Two Omaha doctors were the principal speakers at the meeting March 1 at Murphy Memorial Hospital in Red Oak of the Montgomery County Medical Society. They were Dr. C. R. Hankins, who spoke on diabetes, and Dr. W. L. Lee, whose subject was office urology.

Polk

Dr. Willard M. Allen, professor of obstetrics and gynecology at Washington University, St. Louis, was the guest speaker at the regular scientific dinner meeting of the Polk County Medical Society held March 15 at the Hotel Savery in Des Moines. His subject was "Use and Abuse of Estrogen Therapy."

Pottawattamie

A discussion of the progress of Blue Shield and Blue Cross featured the program of the dinner meeting of the Pottawattamie County Medical Society at Hotel Chieftain in Council Bluffs February 21. Guest speaker was Mr. H. E. Rousch of Sioux City.

Scott

"Control of Gastric Acidity" was the topic of Dr. C. M. Wilhelmj, research director at Creighton University School of Medicine, Omaha, in his address to the Scott County Medical Society March 7. A technicolor moving picture on cancer was also shown.

Shelby

Dr. Allen J. Ryan was elected president and Dr. Robert E. Donlin, secretary, of the Shelby County Medical Society at a meeting February 28 in Harlan. Dr. Charles C. Huntley of Avoca, guest of the Society, expressed his views on hospital problems.

Taylor

The Taylor County Medical Society met at the home of Dr. William H. Cash in Lenox February 13. Guest speaker was Dr. Wesley Bosworth of Clarinda, who spoke on eye, ear, nose and throat treatment.

Woodbury

Dr. John H. Randall, professor of obstetrics and gynecology at SUI, spoke on "Uterine Carcinoma" at the March 16 meeting of the Woodbury County Medical Society at Mayfair Hotel in Sioux City.

Wright

"Cholecystitis" was the subject of an address by Dr. Lester D. Powell of Des Moines before members of the Wright County Medical Society at a meeting February 23 in Clarion.

PERSONALS

Dr. Walter D. Abbott of Des Moines spoke on socialized medicine at a meeting February 21 of the Audubon Business and Professional Women's Club.

Dr. Edward A. Barrett and his wife Dr. Ruth E. M. Barrett have opened offices in Mount Ayr. Dr. E. A. Barrett was graduated from the School of Medicine of the Royal Colleges, Edinburgh, Scotland, where he was awarded the Bathgate Memorial Prize and Bursary in *Materia Medica* and *Therapeutics*. After doing clinical endocrine gynecologic research at the Edinburgh Royal Infirmary, Dr. Barrett was appointed research fellow in endocrinology in the department of metabolic and endocrine research of Michael Reese Hospital, Chicago. Dr. Ruth E. M.

Barrett was graduated from Northwestern University School of Medicine and served as clinical clerk of the Cook County Cardiologic Service. Both doctors served their internships at Michael Reese Hospital, Chicago, and their general practice residencies at the MacNeal Memorial Hospital in Berwyn, Ill., Dr. Edward Barrett in surgery, gynecology and obstetrics, and Dr. Ruth Barrett in internal medicine and pediatrics.

Dr. Charles J. Baker of Fort Dodge was recently elected president of the staff of Lutheran Hospital there.

Dr. Winston C. Baltzell of Charles City discussed first aid treatment of injuries at a meeting of the local Rotarians February 27.

Dr. Ransom D. Bernard of Clarion was elected president of the National Conference on Medical Service at its recent convention in Chicago. Dr. Bernard has served as secretary of the organization the past year.

Dr. Walter M. Block of Cedar Rapids gave a talk on the medical aspects of atomic warfare before the Public Health Nursing Association there March 8.

Dr. Fred C. Brush, having completed his residency in urology at SUI Hospitals, has become associated with Drs. Egmont H. Barg and B. Raymond Weston in the practice of urological surgery in Mason City.

Dr. Raymond W. Carson, who since last June has been in general practice in Iowa City, has opened a practice in Winterset, sharing offices with Drs. C. B. Hickenlooper and Paul F. Chesnut. Dr. Carson was graduated from the SUI College of Medicine in 1948 and served his internship at Hurley Hospital in Flint, Mich.

Dr. Gerald V. Caughlan of Council Bluffs spoke on socialized medicine to members of the Office Nurses Section of District No. 9 at a dinner meeting February 21.

Dr. A. M. Cochrane of Aspen, Colo., has joined the Harken Hospital medical staff in Osceola. A graduate of Rush Medical College, Dr. Cochrane served in the army medical corps and since the war has practiced in Aspen.

Dr. Donald C. Konzett of Dubuque addressed the Exchange Club there March 7 on socialized medicine.

Dr. Harold Inman Gosline has been appointed clinical director of the Woodward State Hospital and School, coming to Iowa from Butner, N. C., where he served as neuropsychiatrist, while doing research work at Duke University. Dr. Gosline was graduated from Harvard Medical School in 1914 and interned at the Boston Psychopathic Hospital.

Dr. Robert Heise has completed his residency at the Good Samaritan Hospital, Kearney, Nebr., and has opened an office in Story City. Dr. Heise was graduated from the University of Nebraska College

of Medicine in 1946 and served an internship at a Pittsburgh, Pa., hospital. He then served two years with the Navy medical corps. Dr. Heise is a brother of Dr. C. A. Heise, Jr., of Jewell and son of Dr. C. A. Heise of Missouri Valley.

Dr. Walter E. Herrick of Ottumwa has been appointed Wapello County Home physician.

Dr. Wayland K. Hicks of Sioux City discussed socialized medicine at a Kiwanis Club luncheon meeting there on March 9.

Dr. Daniel Hope, Jr., of Baltimore, Md., will join the Medical Clinic at West Union on May 1. A specialist in surgery, Dr. Hope was graduated from the University of Maryland medical school in 1940 and interned at St. Agnes Hospital, Baltimore, Md. He became a public health officer associated with the Virginia State Health Department until September 1942, when he joined the Army medical corps, serving for four years. He completed training in surgery at the St. Agnes Hospital in Baltimore in 1948 and since then has practiced surgery, while also serving as industrial surgeon for the U. S. Fidelity and Guarantee Co., of Baltimore and chief of surgery with the U. S. Civil Service at the government hospital at Fort Meade, Md.

Dr. Fred J. Jarvis, Oskaloosa physician since 1905, has retired from practice. Dr. Jarvis was graduated from SUI College of Medicine in 1901 and practiced in Delta for four years before moving to Oskaloosa.

Dr. Herbert Kersten of Fort Dodge left March 7 for Europe, where he will spend two months making a special study of surgical methods in England, Austria, France, Italy and other continental countries.

Dr. Mark G. Konrad, 1947 Kentucky University School of Medicine graduate, has opened offices in Solon for the practice of medicine. Dr. Konrad served his internship at Louisville (Ky.) General Hospital, and was resident doctor for one year at the Veterans Administration Hospital in the same city.

Dr. Louis H. Kornder of Davenport spoke on "How Can We Avoid England's Mistakes?" in an address to the Tri-City Electrical Institute February 23.

Dr. Horace M. Korn of Iowa City conducted a cardiac clinic at the Savanna (Ill.) City Hospital on February 23, and on February 28 he discussed the "Differential Diagnosis of Pain in the Chest" at a meeting of the staff of the Cleveland (Ohio) City Hospital.

Dr. Paul Lambrecht has taken over the offices of Dr. H. I. McPherrin in Des Moines for the practice of ophthalmology. Dr. Lambrecht was graduated from the University of Illinois College of Medicine in 1943 and served his internship at Cook County Hospital, Chicago. He was a resident in ophthalmology at the Illinois Eye and Ear Infirmary, also in Chicago. Dr. Lambrecht served in the Army at Valley Forge General Hospital, Philadelphia, and for

the past 18 months has been associated with the Gailey Eye Clinic, Bloomington, Ill. Dr. Lambrecht is a diplomate of the American Board of Ophthalmology and a member of the Academy of Ophthalmology and Otolaryngology.

Dr. Charles Maplethorpe, Jr., of Toledo spoke against socialized medicine in a debate before the Toledo Business and Professional Women's Club.

Dr. Harold Margulies is the co-author with Dr. Nelson W. Barker of the Mayo Clinic of a chapter entitled "Surface Effects on Blood Coagulation" in a new book, *Blood Clotting and Allied Problems* published by the Josiah Macy, Jr., Foundation, New York.

Dr. James K. Martins of Waukegan, Ill., has opened a practice in Bode. Dr. Martins, a native of Chicago, was graduated from the University of Illinois College of Medicine in 1944, after which he spent two years in the navy. He served with Abbott Laboratories in North Chicago, and then became physician for the John Deere implement plant at Waterloo.

Dr. Edward C. Meggers, McGregor physician since 1924, has decided to remain in Palo Alto, Calif., where he moved last fall because of ill health.

Dr. R. E. Nobel, who has served two and a half years in the admission department at Mount Pleasant State Hospital, has recently been appointed staff physician at the Clarinda State Hospital.

Dr. Joseph B. Sindelar, Minden physician for three and one-half years, is moving to Baltimore, Md., where he will take a four year postgraduate course in surgery. Dr. Max E. Olsen, who is serving his internship at the Mercy Hospital in Council Bluffs, will open a practice in Minden July 1. Dr. Olsen was graduated from Creighton University School of Medicine in 1949.

Dr. Theodore R. Pfundt, who has practiced in Corydon since September 1949, has left for Norman, Okla., where he will be a staff doctor at the University of Oklahoma and specialize in pediatrics.

Dr. Robert S. Plimpton, Denison physician for 48 years, has moved to Florida.

Dr. James E. Reeder, Jr., of Sioux City discussed socialized medicine at a meeting February 23 of the Quota Club there.

Dr. Lester A. Royal of West Liberty has been appointed head regional doctor for the Boy Scout Jamboree to be held at Valley Forge, Pa., June 30 to July 6. He will have supervision of medical care of scouts from eight midwestern and central mountain states.

Dr. Eugene E. Smith of Waterloo spoke on socialized medicine at the March 9 meeting of the Holy Name Men's Society of St. Mary's Catholic Church.

Dr. Fred Sternagel of West Des Moines was the speaker at the meeting of the Iowa Lutheran Hospital Society on the subject "What Price Security?"

Dr. Alfred N. Smith, who has been at Veteran's Hospital in Des Moines for three years, is now with the Veteran's Facilities at Fayetteville, Ark.

Dr. Doyle A. Schrader, who has been in ophthalmology practice in Des Moines since last summer, has returned to Wichita, Kan.

Dr. Robert J. Streitweiser is the new clinic director of the Clarinda State Hospital, coming here from service with the VA outpatient Mental Hygiene Clinic at Providence, R. I. He is a graduate of the University of Nebraska College of Medicine and has had training at the Department of Nervous and Mental Disease in the Pennsylvania Hospital in Philadelphia, the Institute of Living at Hartford, Conn., the Child Guidance Clinic of the Providence (R. I.) City Hospital and the State Hospital at Norwich, Conn.

Dr. Edwin T. Thorsness, director of the Dubuque Blood Bank Association, has been selected as the Iowa Representative for the American Association of Blood Banks.

Dr. Thomas R. Updegraff has become associated with Drs. R. E. Russell and H. O. Gardner for EENT practice in Waterloo. Dr. Updegraff recently completed his residency at University of Iowa Hospitals.

Drs. A. S. and Howard Beatty of Creston have announced that Dr. George Jardine, who has been associated with them for the past 18 months, is returning to Denver, Colo., because of illness in the family; Dr. John L. Hoyt, who has his own offices in Creston, has become associated with them.

Dr. Russell Meyers and Dr. John R. Williams, both of University Hospitals, Iowa City, attended a meeting of the Interurban Neurosurgical Society February 18 in Chicago.

Dr. Everett M. George and Dr. Douglas N. Gibson, both of Des Moines, attended the annual meeting of the American Academy of Orthopedic Surgeons held in New York City in February.

Among the Des Moines doctors attending the clinical meetings of the Chicago Medical Society in March were Drs. Maurice T. Bates, Milton A. Dushkin, Donald H. Kast and George A. May.

Drs. J. T. Worrell and L. N. Hungerford of Keosauqua have moved into their new office and clinic building.

Drs. M. F. Piburn and W. C. Zabloudil have taken over the former offices of Dr. Bernard B. Dwyer in Preston, where they will practice general medicine. Dr. Dwyer has located in Clinton.

Dr. William H. Myerly of Des Moines spoke on the King's Drama of Medicine radio program February

26, on the subject of "The Defeat of Tetanus." Dr. Julian M. Bruner participated in the program on John Hunter on March 5.

Two Des Moines doctors spoke at the meeting March 10 of the Commercial Club in Monroe. Dr. William M. Sproul spoke on the "Heart," and Dr. Dwight C. Wirtz's subject was "Polio."

DEATH NOTICES

Goltry, Charles F., 87, of Russell died March 12, following an illness of several months. Ill health had forced his retirement about three years ago. Dr. Goltry, a lifelong resident of Lucas County, was graduated in 1907 from the National Medical University, Chicago, and in 1908 from the Bennett College of Eclectic Medicine and Surgery. Dr. Goltry was a life member of the Lucas County and Iowa State Medical Societies.

Hombach, William Peter, 87, died March 15 at his home in Council Bluffs, after having been in ill health for four years. He had practiced in Council Bluffs from 1901 until his retirement in July 1946. Born in Germany, he came to Boone County with his parents in 1867. He was graduated from the University of Illinois College of Physicians and Surgeons. Among his four sons who are physicians is Dr. Walter P. Hombach of Council Bluffs. Dr. Hombach is a life member of the Pottawattamie County and Iowa State Medical Societies.

Ladd, Frederick Gaius, 83, of Cedar Rapids died in a hospital there March 10 after a weeks' illness. Born at Iowa Falls, Dr. Ladd studied medicine with his father, Dr. John Ladd, and was graduated from Keokuk Medical College in 1891. He took postgraduate work at Bellevue Hospital and New York Postgraduate Medical Schools. He practiced in Dy-sart before coming to Cedar Rapids where he practiced 53 years. He was a life member of the Linn County and Iowa State Medical Societies.

Lessenger, Ernest J., 63, New London physician since 1915, died March 8 at the Mayo Clinic, Rochester, Minn., following a kidney operation. Dr. Lessenger was graduated from the Drake University College of Medicine in 1913, having moved to Iowa in 1889 from McPherson, Kan., where he was born. He was a member of the Henry County and Iowa State Medical Societies.

Steelsmith, Daniel C., 73, Iowa State Department of Health Commissioner from 1930 to 1933, died of a heart ailment March 12 at Iowa Lutheran Hospital in Des Moines. Dr. Steelsmith, who had made his home at Liscomb for the past six years, practiced medicine in Melvin for 14 years and was prominent in public health circles. Dr. Steelsmith was graduated from the SUI College of Medicine in 1902 and in 1947 was awarded an honorary degree of master of health by Harvard University, where he had studied public health previously. He was a former member of the Osceola County and Iowa State Medical Societies.

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GENERAL PRACTICE AND LICENSURE

Arthur D. Woods, M.D.,* State Center

No age can be rightly judged seen too near. In the mighty drama of epochs the actors perform greater parts than they know. Times and customs change. Ideals are altered. The ideal of yesterday may be the commonplace of today. Additional knowledge often reveals the fallacy of previous ideals.

Such aphorisms are no better exemplified than in the long history of medicine. From Hippocrates to Galen we have the first great epoch in medicine. The immortal Osler summarized this period as follows:

"Greek medicine had now reached its climax, and with Galen the first great chapter in scientific medicine closes. It is one of the most remarkable and in a way inexplicable feature in history that having made a beginning of such brilliancy the scientific study of disease should have made little or no progress for the next fourteen or fifteen centuries. Into the causes of this sterility this is not the place to inquire. During the long period three great names ruled all minds, Ptolemy, Aristotle and Galen, and men were content to accept the geographic system of the one, the natural history and the philosophy of the other, while the infallibility of the great Pergamite became the first article of belief among all practitioners of medicine."

Following this came the long night of the Dark Ages. For thirteen centuries the teachings of Galen reigned supreme. And then that wonderful sixteenth century. We speak of it as the Renaissance. As one writer says: "That was the springtime of our world. Great names crowd the text—Luther, Michelangelo, Raphael, Titian, Copernicus, Columbus, to go no farther. Men were breaking away from tradition; the dark veil of the middle ages had been rent."

No one up to the year 1543 had questioned the authority of Galen. Then a young rebel appeared on the scene. Andreas Vesalius published his famous book, *Fabrica Humani Corporis*. And as one writer has said, "Promptly the heavens were opened, and the wrath of intrenched conservatism descended upon him . . . His old master Sylvius and others thundered against him for daring to point out that Galen was wrong."

William Harvey fared no better. One of his contemporaries, John Aubrey, tells us "that after his book on the *Circulation of the Blood* came out he [Harvey] fell mightily in his practice, 'twas thought by the vulgar that he was crack-brained and all the physicians were against him."

In the great epoch of American medicine one of the scenes in the brilliant drama was the first administration of ether in the Massachusetts General Hospital on that memorable October day of 1846. More drab, but no less eventful, was the near riot precipitated by Ephraim McDowell in his daring venture into the mysteries of abdominal surgery.

These few examples reveal to us how times and customs change, how ideals are altered.

And who dares to say that the present hour may not be as momentous as any in history? Are we now entering a second Dark Age or may this be the advent of a second Renaissance? But certain it is the entire medical world of today is in the throes of change. The prevailing methods of medical education are being questioned. The distribution of medical service has come in for severe criticism. But greater still are the short-comings of medical psychology as revealed in academic circles and among the practitioners of medicine. Sixty years ago the lecture system was the ideal in medical education. Near the close of his memorable career William Osler stated that his greatest contribution to medicine was the inauguration of the ward system in medical teaching. This has now prevailed for half a century. It is ideal where the patient has to be in bed, but what

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of that vast array of human complaints and injuries that need no bed in ward or elsewhere? What are medical students being taught as regards the care of this great multitude, this 85 to 90 per cent who are never seen in a ward? To some academicians this great segment of human complaints is too trivial for their erudite consideration. Disease in its incipency rarely enters the portals of their sanctuaries. The problems of advanced pathology command their attention. The greater part of their time is devoted to the study and care of a small segment, but a very important segment, of human complaints, just about 10 to 15 per cent. This is the realm of the specialties. The wards of the hospitals of today are filled with these patients, and around the problems of these cases do we find the great bulk of medical teaching. In such a medical atmosphere is it any wonder that nearly all medical students feel they must become certified.

In volume one of *Oxford Medicine*, 1920 edition, Sir James McKensie speaks on the future of medicine. In his thought he takes us out of the ward and over into the outpatient department of any large hospital. It is there, he says, that we should begin the study of disease. It is there we shall find disease in its incipency, in the stage where it may be eradicated or possibly arrested. It is there and in the offices of the general practitioners and in the homes that we find this great multitude of human complaints, this 85 to 90 per cent. Then Sir James goes on to deplore the fact that those in charge of the outpatient departments in hospitals all over the world are the young and inexperienced. There is no more difficult problem, said McKensie, than the ferreting out of disease in its incipency. He advocated that the best brains on the faculty should be found in the outpatient departments of all teaching hospitals. It is regrettable to think that some clinical instructors would consider it beneath their dignity should they be asked to take charge of outpatient departments.

This is but a mere glimpse of what may be some of the future problems in medical education.

As the lecture plan was superseded by the ward system of medical teaching, may not the ward system become secondary to a more advanced approach to the study of disease? Let us take an example: Forty years ago in the wards of all hospitals one could see cases of acute mastoid abscess. With the advent of myringotomy early incision of the tympanic membrane materially reduced the number of cases of mastoiditis. Then came the sulfa drugs and penicillin with the result that today if one sees a mastoid abscess, he knows someone has blundered. Thus can we see

that acute otitis media is readily controlled before it reaches the stage that hospitalization becomes necessary. The otologist of today is made conscious of this change by a substantial reduction in his revenue. Where do we find these cases of acute otitis media that formerly were so prolific in the production of acute mastoid abscesses? Certainly not in the wards but in the outpatient departments of hospitals or in the doctor's office or in the home.

But what of medical distribution? What about this clamor for more general practitioners? This is a very pressing problem and may become dangerous to the welfare of organized medicine unless something is done about it. As regards this problem two schools of thought prevail. One advocates a long residency preparation for the general practitioner; the other, an intensive, but shorter, period of training. The Colorado plan may be examined first. Theirs is a three year residency in general practice. Their philosophy of the three year general practice residency is based upon four fundamental principles:

"1. That there is a continuing need for well trained general practitioners in the Colorado area as well as in the United States as a whole.

"2. That the well trained general practitioner furnishes the most economical type of medical service.

"3. That the well trained general practitioner may adequately handle up to 90 per cent of all medical problems.

"4. That it is inconceivable that a physician can be trained to do general practice in any less time that it takes to train a physician to become a specialist."

Then follows a detailed statement of how they propose to carry out these principles.

Time will not permit a presentation of the curriculum of the general practice residency or of the hospital integration program as it is now attempted in Colorado. On the surface and from a broad point of view this Colorado plan would seem ideal. One can readily agree with the first three principles of their philosophy, but close scrutiny of the fourth principle will reveal glaring inconsistencies and grave objections.

Is it not inconsistent to graduate a medical student after seven years of intensive training, grant him the degree of M.D. and then in the next breath tell him he is not competent to practice medicine? If he is not ready to practice his profession, why grant him the degree?

When they say in Colorado, "It is now recognized that more than the customary four years of undergraduate medical education and an in-

ternship are necessary to prepare for practice regardless of the field," are they not casting sad reflections on the adequacy and efficiency of undergraduate instruction?

And what of the time element? As this scheme of medical education is now carried out in Colorado, the student spends eleven years before entering the practice of medicine. This long period of preparation is subdivided as follows:

Premedical education 3 years
Undergraduate medical education... 4 years
Internship 1 year
General practice residency..... 3 years

Further criticism of this plan for the preparation of the general practitioner may be found in the fact that all of the instruction remains in the hands of the specialist.

Institutional medicine is constantly emphasized. Many of the problems that the student will be called upon to deal with in general practice he will never see in an institution. In fact, no matter how long the period of instruction the student may have in medical school or hospital, there will be much he will have to do as he learns to practice medicine his way.

If the Colorado plan prevails, ere long we will have two classes of general practitioners, viz. the "diploma class" and the "residency class." An aristocratic snobbishness may easily develop among the latter. It will be they who will receive hospital privileges while the diploma class will be the underdogs without favor inside or outside the profession. If, as they say in Colorado, no man is competent to practice medicine until he has received eleven years of medical education, then no man should receive a diploma at the end of seven years but only when he has completed the eleven years of preparation. As the situation now prevails, it is paradoxical to say the least.

In the state of Iowa the lack of a sufficient number of general practitioners has commanded the attention of two groups the past year. At the recent session of the State Legislature a loud clamor went up demanding the training of more doctors by our State University Medical School. Further cognizance of the situation was taken last spring when the president of the State Medical Society appointed a General Practice Committee. At a recent meeting of that committee it was decided that each member should submit in writing his analysis of the problem and offer suggestions as to what might be done about it. Parts from one of these communications is hereby submitted for your consideration. Please note the preamble and the suggestions which follow:

"When medical conditions reach the point that warrant the investigation of a general practice committee; when an Iowa legislature demands an increase in the output of doctors by our University Medical School; when the State of Iowa, in supporting the training of 137 residents for the specialties in our University Hospital, finds that few, if any, general practitioners receive the same consideration; when scores of communities in the State of Iowa are without Doctors of Medicine; when medical training becomes so highly specialized that medical students develop an almost contemptuous attitude toward general practice; when the medical profession generally becomes so derelict in answering calls that the *Journal of the American Medical Association* sees fit to publish so scathing an editorial as that of March 6, 1948, with the caption, 'The Public Wants a Doctor When They Want Him'; when the sick or injured patient goes without medical care by reason of the time element (it may be after office hours, or during the night, or on a Sunday, or on a holiday); when all these things come to pass, then there must be something wrong with medical psychology and with medical education and with the distribution of medical service.

"For many years it has been recognized that 85 to 90 per cent of all human problems can be cared for by the well trained general practitioner. This is not a trite saying but a demonstrable fact. All over the State of Iowa, every day, the work of the general practitioners who know the why and how of general practice demonstrates this outstanding fact. Since this is true, and since there is a great dearth of general practitioners who can care for the vast majority of human medical problems, would it not seem reasonable that the major effort in medical education should be directed to this need? In Colorado they say there is a continuing need for well trained general practitioners. Then they go on to say that the well trained general practitioner furnishes the most economical type of medical service. And finally our Colorado friends say that the well trained general practitioner may adequately handle 90 per cent of all medical problems. Assuming the validity of these statements, what greater challenge could medicine have to change its ways in the matter of educational methods?"

Then this member of the General Practice Committee says herein lies the crux of the problem and follows with certain recommendations:

"1. That the University of Iowa Medical School direct its major efforts to the training of general practitioners, not only in the years of internship and possible residency, but throughout the entire four years of undergraduate medical teaching.

"2. That throughout the four years of undergraduate teaching the faculty shall place great emphasis upon the need and desirability of general medicine in order that the student may develop a proper perspective toward, and a true evaluation of, the general practice of medicine.

"3. That there be instituted at the State University of Iowa Medical School a far-reaching plan of externship. This should encompass all of the outpatient activities and more. Much that the general practitioner will see in his private practice can be taught here. Disease in its incipency should be stressed to the utmost. A separate building, which might be designated *The General Practice Office Building*, should house these activities. It should be made as much like, and with an atmosphere as nearly resembling, that of the private office as possible. The patient and the student should be made to feel that they are not in a hospital. The best brains on the faculty should make up this part of the teaching staff. The ferreting out of the hidden causes of disease in its incipency is not a job for the inexperienced resident but demands all the potential possibilities of a mature, experienced, well-coordinated brain. No patient should be permitted to leave this General Practice Office Building to be admitted to any department of the hospital until every facility in the way of diagnosis and treatment has been exhausted. Many of these patients will be sent home, just as will be the case when the student goes into private practice. Some will have to be admitted to the hospital. Then the student can follow such a patient to the ward and in a consecutive way see what is done as the specialist takes over. In this manner the undergraduate could be taught how and when to refer a case to the specialties. Herein lies the most important thing the general practitioner should learn—when to refer the case."

Would it not be possible by such a plan to prepare the student for the general practice of medicine in a period of eight years? After completing an undergraduate study of four years, could not the one year now devoted to internship be so arranged as to provide a real rotating internship in general medicine? If this plan of medical teaching were carried out, it would comprise three approaches to the study of disease as follows:

1. Introduction of the student to the patient as an individual entity, not a mere case packed with pathologic mysteries. The fascination of an early approach to disease, or disease in its incipency, could be emphasized here. This is the theme running through Sir James McKensie's chapter on "The Future of Medicine."

2. Medical teaching in the wards as it is carried out today.

3. The lecture: What an opportunity this would provide for the instructor to sum up the problem in any case and to hammer home the thought that when a person is sick, he is sick all over, not merely in his right posterior ethmoidal cells, or in his bile duct, or whatever anatomic area may bulk large in the foreground of the clinical picture. And what a chance this would give the clinical instructor to add to the dignity of the general practice of medicine.

Examination for licensure would be greatly simplified if the applicant were to receive his medical training in such an atmosphere. The intricate problems of the specialties could then be left to the boards of certification. The applicant in general medicine would then be examined to determine his efficiency in meeting the problems that comprise from 85 to 90 per cent of all human complaints. Within this field then would be our responsibility in conducting examinations. Must we, as medical examiners, stand idly by while the mills of the gods grind slowly on? What is our duty to the applicant who comes knocking at the door seeking admission to the Temple of Aesculapius? Are we going to examine him to determine his efficiency and qualifications to meet the common problems of everyday practice or must we continue to burden him with those things that should be left to the boards of certification? Will we ask him to describe the intricate technic of transurethral prostatic resection or should we ascertain whether he knows how to differentiate the hypertrophied prostate from that of malignancy by rectal examination? Which will he be called upon to do more often, remove a foreign body from the cornea or perform an iridectomy? Should we find out if he knows how to interpret a leukocytosis or a leukopenia or will we ask him to tell us about thrombocytic acroangiothrombosis? Is it more important that he tell us how he would digitalize a patient who is suffering from congestive heart failure or should we test his knowledge relative to some of the latest theories of electrocardiography? If we find he understands the importance of a routine urine examination in every case, need we have much fear that the unknown diabetic will slip through his fingers?

These are but a few examples of what we should expect and what we should not expect of the applicant for licensure. It is our job to pass upon the qualifications of the applicant as a general practitioner, a good, common, everyday doctor, if you please, not a half-baked, piece-meal

specialist. If it became generally known that all examinations for licensure would be based on the general practice concept, is it not possible more young men would enter the general practice of medicine?

In this plea for more and better general practitioners there has been no thought of disparagement of the specialties. No one would decry their very important place in medicine. And, by the grace of God, more power to them. But when the emphasis in medical training is so overwhelmingly on the side of the specialties that nearly all medical students aspire to become specialists, then do we have the right to criticize.

Yes, times and customs change; ideals are altered. Medical psychology and medical education and the distribution of medical service are now seeking the new ideal.

FRACTURES IN CHILDREN ARE DIFFERENT

Walter P. Blount, M.D., Milwaukee, Wis.

One of the standard comic strip gags is the frequent failure of doctors to agree on the simplest facts of diagnosis and treatment. This criterion is warranted even of some specialists trained in the same narrow field. It is therefore gratifying to me to deal with a subject on which there is a surprising degree of unanimity of opinion. Recent articles on fractures in children written by national authorities on the subject contain few contradictions, but some books and papers on the general subject of fractures still violate the principles of fracture treatment in children.

These principles of treatment are simple. Alignment is the chief requirement; that is, the fracture must not be angulated nor rotated. Apposition and length are of little significance in children. Usually an excellent result is obtained by simple traction or closed reduction and a cast. There are exceptions to this statement, however. Children's fractures are full of exceptions. They are different from fractures in adults. The difference is that children are going to grow. The growth factor is important because it will do three things: First, it tends to equalize the shortness from over-riding. This is not a purposeful beneficent force but the result of stimulation of growth due to the increased blood supply following the fracture. Second, growth will correct

minor angular deformities near the bone ends. The third point is adverse. Following injury of an epiphysis, growth may be retarded so as to produce angular deformity or shortening.

Fracture of the femur in children is usually well treated by skin traction, preferably of the Russell type for older children and double over-head for those under 5 years of age. It is difficult to justify open reduction. There is usually over-riding. One centimeter of over-lap is the optimum position for healing. Union is more rapid than if the bones are end to end. The shortening will usually be overcome by more rapid growth. Sometimes there is undesirable over-growth.

In a large series of cases there proved to be an average overgrowth of 1 cm. Therefore in the average case the ultimate result will be femurs of equal length if the fractured one is 1 cm. short to start with. This increase in length after fracture is most striking in the femur and tibia, but it occurs in all long bones.

The correction of angular deformity is well illustrated in the forearm. At the middle of the bones good alignment is imperative. It is easily obtained by traction. At the ends of the bones it is not so important that the alignment be perfect. This is fortunate because there is a frequent tendency for the fractures at the distal end of the radius to angulate in the cast. A second reduction is justifiable if the angulation is in excess of 30 degrees.

When good results can be obtained by simple closed methods, operations are difficult to justify. I have seen cases in which open operation on bones of the forearm was followed by delayed union or even nonunion. Even if we agree that complication is unlikely, one tragedy in a lifetime is sufficient to condemn open reduction.

Angular deformity will correct spontaneously with growth in other long bones. This is particularly true at the proximal end of the humerus. There is no greater mistaken belief than the current one in some localities that open reduction is necessary at this location in children. Accurate reduction is not necessary. Epiphyseal fractures at the proximal end of the humerus do just as well even if the reduction is incomplete. Following open reduction, slight residual deformity is the rule.

At the elbow more accurate reduction is necessary. Normal alignment is imperative. Apposition need not be perfect. Bony deformity is rarely responsible for flexion contracture, which is

more likely to be due to anterior fibrous contraction of the capsule.

Lateral angulation is less likely to disappear. With the typical supracondylar fracture, accurate reduction by closed methods is not usually difficult. If there is some rotation of the fragments and angulation with the apex laterally (frequently associated with medial displacement of the distal fragment), a gunstock deformity will result. This is usually permanent but is of only cosmetic importance. The same deformity may be caused by overgrowth of the lateral condyle, less frequently by retardation of growth of the distal epiphysis on the medial side.

I have mentioned Volkmann's ischemic contraction. Occasionally this tragedy occurs in spite of proper treatment. All too frequently it is the result of some error on the part of the doctor. The appearance of pain, inability to move the fingers, cyanosis or pallor or swelling are signs of early ischemia. The treatment of the fracture then becomes a matter of secondary importance. All constricting bandages must be removed. Acute flexion must be released beyond a 90 degree angle; the arm must be elevated, and satisfactory position of the fragments maintained by traction. If the new position does not adequately relieve the symptoms so that pain disappears, capillary pulse returns and the fingers become movable within one-half hour, energetic measures must be instituted immediately. Procaine block of the appropriate paravertebral ganglia may be performed. If this is not immediately successful, exploration of the cubital fossa is indicated. The dense investing fascia is slit, allowing the explosive release of congested muscles into the wound. Ligation and excision of the involved portion of the brachial artery along with its sympathetic fibers will relieve the spasm of the collateral circulation and prevent a catastrophe. If adequate treatment is not supplied within a few hours, disabling contractures supervene, and nothing can cure the child. Once the contractures are established, only partial relief of a bad situation is possible.

The adverse effect of growth is shown largely in epiphyseal injuries. In the upper extremity epiphyseal fractures are likely to do well, but one must be constantly aware of the possibility of significant growth disturbance. A typical case with displacement of both epiphyses at the distal end of the forearm was reduced perfectly under a general anesthetic, and five years later there is no shortening. The involved bones are 9 mm. longer than on the other side. In a large series of cases we have found only occasional growth arrest in the radius.

In the lower extremities epiphyseal growth retardation is more likely to occur. Accelerated growth is about as frequent. The distal end of the tibia is particularly prone to arrested growth.

An epiphyseal injury may produce angular as well as linear deformity. The whole epiphysis may not be involved. A girl, aged 9, was kicked by a horse at the age of 2, five years before I saw her. The lower end of the right femur was broken. The middle portion of this femoral epiphysis had become fused with a little growth laterally and more rapid growth medially, so as to cause an angular deformity and considerable shortening. With appropriate osteotomy on the short side and epiphyseal stapling on the long side, the legs will gradually grow to the same length. The girl will be a little shorter, but the end result will be satisfactory. I emphasize this epiphyseal disturbance so that none of you will wait five years in the face of impending epiphyseal closure but will send the patient to an orthopedic surgeon for prompt treatment so that more radical surgery will be avoided.

Deformities may be due also to meddling surgery. In adults it is frequently wise to operate on a fractured femur and to use a plate or Kuntscher nail for fixation. In children this is not true. In cases which did not require operation at all we have records of sepsis and death, osteomyelitis, deformity, stiffness, repeated fractures and persistent nonunion. Any one of these complications should be enough to cure a man of operating unnecessarily and unwisely. When the results with traction are so uniformly satisfactory, it is difficult to justify open operation on the fractured femur of a child.

Don't get the idea that operations are unnecessary; but they are rarely needed in the cases that look difficult on casual inspection. In children there is such a paradox in this regard that we have come to say that the fractures that look easy are usually hard to reduce while the ones that look difficult are usually easy. This is particularly true at the elbow. Fractures of the lateral condyle, medial epicondyle and the radial neck rarely cause much gross displacement, but the late results of imperfect reduction may be so serious that operation is frequently necessary. Epiphyseal separation at either end of the femur and a few other rare articular fractures may constitute surgical emergencies requiring operation. With these exceptions operations on fractures in children are difficult to justify.

When necessary in children open reductions should be performed without delay. The most

frequent failure to operate promptly is in case of the lateral condyle of the humerus.

The medial epicondyle is fractured less than half as often as the lateral condyle. Usually the epiphysis is avulsed with moderate displacement. If the fracture is untreated, nonunion usually results. Sometimes a spike of bone forms to join the displaced epiphysis to the shaft. In either case the deformity is moderate, and there is no disability. It is frequently desirable to pin the epiphysis in place because of more marked displacement. A normal elbow is obtained if the operation is performed well and promptly. When the medial epicondyle is displaced into the elbow joint, open operation is imperative and should be performed at once. If operation is delayed, it is frequently wise to remove the displaced bone fragment and suture the soft parts to the condyle.

Fractures of the radial neck illustrate the difference between treatment in adults and in children. If there is moderate displacement with angulation of 30 to 40 degrees, the fracture may be left unreduced. Within a few months the growth changes will have restored function to normal, and within a year roentgenograms will not identify the fractured bone. If the button-like head is angulated 90 degrees and displaced distally on the shaft, there will be limitation of pronation and supination unless the fragment is replaced. If open operation is performed promptly and the epiphysis gently pulled into place with small bone hooks, there should be no complication. Internal fixation is not necessary. Flexion of the elbow serves to maintain the position of the fragment. A moderately displaced radial head can occasionally be reduced by closed methods. This is rarely possible in a case which justified operation. Whether the radial head is reduced or left angulated, it should never be removed. In adults the opposite is true. The head is usually fractured and not the neck. It is frequently wise to excise the radial head and neck. Never excise the radial head in a growing child.

Fractures in children are different. Moderate shortening due to over-riding will be overcome in most cases. Moderate angular deformity near the bone ends will be corrected in children up to the age of 10 or 11. Epiphyseal fractures are sometimes followed by retarded growth. Treatment of the fractures which look easy is occasionally difficult while reduction of the ones that look difficult is frequently easy. Except as mentioned specifically, reduction and fixation are best obtained by simple conservative measures. Open reduction is difficult to justify. When there is a definite need for operation (usually at the elbow), operation should be performed promptly.

REGIONAL ENTERITIS*

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Introduction

A great many medical terms have appeared in the literature in an attempt to describe this non-specific inflammatory disease of the small bowel and occasionally of the colon. The descriptive terminology most frequently seen is *terminal ileitis*, *regional enteritis*, *segmental enteritis*, *regional ileitis*, *pseudocancer*, *chronic idiopathic ulcerative enteritis*, *infective granuloma*, *chronic cicatrizing or stenosing ileitis*. The most descriptive and logical terminology appears to be *regional enteritis*, since the disease is a nonspecific inflammatory condition which may involve any portion or segment of the small bowel and occasionally the cecum, ascending and/or a portion of the transverse colon.

The original name, *terminal ileitis*, was used because in the early description of the findings the lesion was found in the terminal ileum, but since that time it has been shown many times that the disease may occur in any segment of the small bowel or in portions of the colon or a combination of the two.¹¹ This fact is clearly demonstrated in the cases presented in this paper. The lesion occurred in various segments of the small bowel and colon.

The first classic description of this lesion was made by Crohn, Ginzburg, and Oppenheimer² about 17 years ago. Since that time a great many articles have appeared in various journals on the subject, covering hundreds of cases in which definite opinions and conclusions have been expressed.

It is the purpose of this paper to present, in addition to our own experience and cases, the results and present trends in the surgical management of this disease.

Etiology and Incidence

The etiologic factor remains unknown, but it is generally accepted that the tubercle bacillus is not the responsible organism.^{7, 8} Many authors have expressed their opinion in regard to the primary cause; among the causes advanced are various bacteria, bacteriotoxins, viruses, Protozoa, Metazoa, allergy, foreign bodies and nonspecific inflammation of the appendix.^{7, 19}

It is a disease primarily of young adults, although many cases occur in the 40-50 year age groups. Fallis⁴ in a series of 32 cases found over 80 per cent of the patients were under 40 years

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of age. The sex ratio difference was not significant. Some authors have stated that the disease is definitely on the increase as shown in the survey conducted by Fallis,⁴ and Donald and Brown³ in 1941. In an 18 year period prior to 1937 there were 178 cases, whereas in a period of four years following this date there were 114 cases reported. The fact that the medical profession, through repeated writings on the subject, is now aware of the symptom complex representing this disease may be a possible factor for the apparent increase in the incidence of this disease; however, it is not regarded as the only explanation for the increased incidence.

Symptoms, Signs and Diagnosis

The clinical picture may vary widely depending upon the stage of the disease and its location. The onset may be insidious but often is acute, being confused frequently with that of acute appendicitis. The symptoms during the early phases of the disease are a result of inflammation, edema and irritation of the small bowel. These factors produce upper abdominal pain or pain in the right lower quadrant, usually cramping in nature and accompanied by nausea and vomiting. Many of the patients have attacks of diarrhea, low grade fever and leukocytosis.

In the later stages of the disease the first symptoms and signs may be those of partial or complete obstruction. The outstanding symptoms are abdominal cramps, borborygmus and a palpable mass in the lower abdomen.

The complicating features of the disease, such as perforation, local abscess, fistulas, external or internal, may be the symptoms and findings which bring the patient to the physician for treatment. These fistulas may be simple or multiple and may be of the abdominal wall communicating with the small or large bowel, or there may be internal fistulas between loops of small bowel or colon or fistulas of the perineum.

Nutritional disturbances follow as a result of diarrhea and impaired absorption. Weight loss, anemia, hypoproteinemia and vitamin deficiency are common in long-standing cases.

The physical examination may reveal local tenderness and a boggy mass in the right lower quadrant, a pelvic abscess or fistulas of the lower anterior abdominal wall. The injection of these tracts with opaque media, such as lipiodol or diodrast will frequently indicate that they communicate with the small or large bowel.

The roentgenologic findings are usually characteristic. These studies should include barium enema and serial small bowel studies. Increased transit time in the small bowel may be an early

finding. Segmental distribution and puddling of the barium in the small bowel is also significant. The signs which are diagnostic of organic changes in the intestinal wall are areas of constant irregularity in outline, narrowed lumen, changes in the normal mucosal pattern and internal fistulas. Marked narrowing of the lumen results in the so-called "string sign."

The differential diagnosis should include ileocecal tuberculosis, appendical abscess, Meckel's diverticulitis, ulcerative colitis, appendicitis, neoplasm of the intestines, actinomycosis, Hodgkin's disease and amebiasis.

Pathology

In the 5 cases presented the pathology found involved the upper jejunum, the lower jejunum and ileum, the lower ileum, and in 2 cases the terminal ileum and cecum. From my own observations of all cases of regional enteritis, non-specific lesions of the colon and ileocolitis, it is felt that all these manifestations are a result of the same disease process occurring in different segments of the intestinal tract. The gross and microscopic findings are characterized by their nonspecificity. The degree of pathologic changes are dependent to a great extent as to the phase of the disease at the time of surgery.

In the acute phase the segment of bowel involved appears as a blotchy, soggy, edematous mass of greatly thickened and reddened bowel. The associated mesentery is likewise thickened, edematous and contains a large number of hyperplastic lymph glands. The serosa presents a mottled red appearance.

In the latter stages of the disease the pathologic process has become more advanced, characterized by a greatly thickened, firm, rigid tube, similar to a garden hose, with its mesentery greatly thickened. There is usually a tendency toward perforation at this stage of the disease, but an attempt to prevent this change is brought about by adhesions formed with the abdominal wall, associated loops of bowel or omentum. The lumen of the bowel is constricted and narrowed. The diseased segment is sharply demarcated from the normal bowel. The mucosa is edematous and may show a series of small or large ulcerations. The serosa is thickened and fibrosed.

The microscopic sections confirm the gross thickening of the intestinal walls. There is hypertrophy of the muscular wall as well as inflammatory involvement of the submucosa, muscularis and subserosa, with resultant fibrosis. The greatest changes appear to be in the submucosal layer.⁹ The submucosal changes are characterized by hyperplasia of the lymphatic tissue and an ob-

structive lymphedema, the former being non-specific in type. The germinal centers are usually replaced by a marked proliferation of the reticulo-endothelial cells. In the center of these the Langhan's type of giant cells are often seen. The same changes are seen in the regional lymph nodes.

Treatment

In the discussion of the treatment of this disease, it is necessary to present it in the terms of the stage of the pathologic process, whether it is acute or chronic, with or without complications.

It is generally agreed that surgery should not be performed during the acute phase of the disease. Since it is impossible at times during an acute attack to differentiate the condition from an attack of acute appendicitis preoperatively, the diagnosis is usually established after opening the abdomen. Most authorities believe that an appendectomy should not be performed,^{11, 16} whereas others^{4, 15} state that the removal of the appendix should be accomplished, since it may be the focus which is keeping the disease active.

The majority of surgeons are conservative in the acute phase of the disease. This is based on the fact that a remission of the acute phase can often be expected and obtained under rigorous medical management and that regression of the acute stage is not always followed by stenosis or other sequelae.

In the surgical management of the chronic stage or its complications two types of operation are advocated. An analysis of the results of the various surgical technics indicate a definite trend toward conservative surgical measures.¹⁸ One consists of a resection of the diseased bowel and primary anastomosis, whereas the other is a transection of the small intestine above the site of the lesion and an anastomosis of the normal small bowel to the normal colon beyond the lesion.

A complete survey of the problem indicates the operation of choice, as advocated in most large clinics and brought out from the results of large series elsewhere in this article, is a short circuiting operation, an ileocolostomy or jejunocolostomy with the exclusion of the diseased bowel.

The two stage operation, which consisted of a short circuit operation followed by resection at a later date, has been discarded by most surgeons for three reasons: (1) because in most instances the segment of bowel which was involved was inactive, healed, and the fistulas spontaneously closed; (2) because in spite of the second stage resection the percentage of recurrences remained as high as, if not higher than, that following the

simple short circuiting procedure; and (3) because in the two stage procedure the mortality was so high.

Report of Cases

This series of 5 cases is presented because of several important features: (1) that in the majority of cases the primary pathology was not recognized; (2) that the lesion involved various areas of the small and large bowel; (3) that in 2 cases the appendix was removed during the acute phase of the disease and that the disease progressed to the later stages with complications; and (4) that several of these patients were not improved by local resection of bowel and excision of sinus tracts but finally recovered following either a short circuiting operation or radical resection with an ileocolostomy.

Case No. 1—This first case is presented in detail because it illustrates many complicating features of the disease, as well as failure in the early recognition of the primary pathology and the problems and complications following an incomplete surgical approach to this problem.



Fig. 1. Case 1—Motor barium studies of small bowel revealing puddling, narrowing of lumen of terminal ileum and dilatation of segments of small bowel.

A white male, aged 54, was admitted to the Surgical Service on Dec. 11, 1946, for treatment of a fecal fistula of three days' duration. The patient stated his illness started in December 1935, at which time he began having intermittent pain beneath the right costal margin, radiating to the area of the right lower ribs in the back. There was no associated nausea or vomiting, change in bowel habits nor weight loss. The pain was

unrelated to food and not relieved by alkali, was of a cramping nature and severe enough to awaken him at night and to require narcotics for relief. Appendectomy and cholecystostomy were performed in February 1936, but he continued to have the same pain, and in June 1937 he had a cholecystectomy despite x-ray reports of a normally functioning gallbladder. He derived no



Fig. 2. Case 1—Catheter passed through abdominal sinus tract and injection of lipiodol revealing communication between tract and loop of small bowel.

benefit from the operation; in fact, his attacks became more frequent and more severe, and he became conscious of increasing amounts of borborygmus. A gastrointestinal x-ray series performed the following December reported some narrowing of the duodenal cap and delay in stomach-emptying time, consistent with a diagnosis of a chronic ulcer of the first portion of the duodenum. In July 1938 he suffered an attack of partial intestinal obstruction, for which he was explored. Patient had one episode in December 1938 of hematemesis and tarry stools with associated secondary anemia, which responded to medical ulcer management, and in 1944 a gastroenterostomy was performed. The same year he had two operations for relief of partial intestinal obstruction, and since that time he has had a persistent diarrhea and numerous episodes of abdominal distension, crampy pain and vomiting. In July 1946, following one of these bouts of distension, he developed an abdominal wall abscess which ruptured spontaneously just above and to the right of the umbilicus and discharged a considerable amount of foul-smelling, yellowish material. Fecal material was not identified, and the

drainage subsided after several weeks' treatment with moist compresses and penicillin. There had been no drainage until three days prior to admission, when there was recurrence near the former opening of a tender swelling which ruptured and began discharging fecal material.

Physical examination on admission revealed a poorly nourished and chronically ill appearing white male with multiple surgical scars on his abdomen. Two inches to the right and slightly below the level of the umbilicus was a fecal fistula with surrounding tender induration. The discharge had the characteristic color, odor and consistency of small bowel content. There was no abdominal distention, and no organs or masses were palpable. Peristalsis was definitely hyperactive. Patient was afebrile; admission blood count, urinalysis and blood chemistry studies, including N.P.N., serum proteins and chlorides, were within normal limits. The fistula was treated with systemic penicillin and local, warm, moist compresses but showed no decrease in amount of drainage nor signs of healing under this type of management. Repeated stool examinations were consistently positive for occult blood with the patient on a meat-free diet.

A barium enema was given, and x-rays revealed no pathology in the colon. No fistula could be definitely demonstrated on gastrointestinal series, but there was a suggestion of a "string sign" (fig. 1) and a small triangular-shaped pocket of barium noted on the right at about the level of the second lumbar vertebra, which was interpreted as possibly representing a part of the fistular tract, though its connection with the bowel could not be seen. Consequently, lipiodol was injected into the fistular opening and revealed a communication with a loop of ileum which showed some irregularity in the mucosal pattern (fig. 2).

On January 17 the fistular tract was excised and found to pass through the abdominal wall into a segment of the terminal ileum about a foot and a half from the ileocecal junction. This loop was densely adherent to the anterior abdominal wall and presented an indurated, firm, scarred area about $2\frac{1}{2}$ inches in diameter on the free margin of the ileum, at which point the sinus tract communicated with the lumen of the bowel. The terminal 3 feet of ileum was thickened, firm and enlarged, and there were many enlarged mesenteric lymph nodes. Since ileotransverse colostomy could not be performed through the existing incision and the patient had not been prepared for this type of surgery, a local resection and excision of the fistular tract and that portion of the ileum with which it communicated, including involved lymph nodes, was performed. The cut ends of

the ileum were inverted by several rows of sutures and a side to side anastomosis made between the two segments.

Pathologic report: The specimen of small bowel measured approximately 18 cm. in length. The bowel wall was thickened, hyperemic and scarred. Microscopically, chronic inflammatory cells were seen throughout the muscularis mucosa and submucosa with extensive scarring. Diagnosis was ileitis, chronic, nonspecific with fecal fistula.

The patient's postoperative course was complicated by bowel obstruction and recurring fecal fistula. On February 6 his condition had improved sufficiently to warrant further surgery. At this time the entire ileum and jejunum were thickened and inflamed to such a degree that it was difficult to determine the exact site of regional ileitis and the inflammatory changes secondary to bowel obstruction. The jejunum was transacted about 8 inches from the ligament of Treitz, the distal end inverted and the proximal end anastomosed to the transverse colon. The jejunal specimen submitted to the pathologist revealed jejunitis, subacute, nonspecific.



Fig. 3. Case 1—Postoperative gastrointestinal series following bilateral vagus resection and jejunocolostomy revealing good functional gastroenterostomy stoma and no evidence of marginal ulcer; equal distribution of barium in the small bowel with no evidence of segmentation or dilatation.

His postoperative course was uneventful except for a diarrhea. The fistular tract healed. On March 13 because of the persistent diarrhea the patient was reoperated upon, at which time

the upper jejunal loops had returned to normal. About 3 feet from the ligament of Treitz the loops of jejunum and ileum began to show changes consistent with chronic enteritis. There was no evidence of lymph node involvement at this time in the upper mesentery of the small bowel. The previous jejunocolic anastomosis was taken down, and 3 feet more of the jejunum was brought into the normal bowel continuity, and this loop was then anastomosed to the transverse colon. Again the pathologic diagnosis was enteritis, chronic, nonspecific.

The patient made an uneventful recovery. His wounds healed per primam, and the fistular tract remained healed. He gained weight and was free from abdominal distress. He continued to have several loose bowel movements daily.

He returned to the hospital on May 5, 1949, complaining of abdominal pain, weakness and tarry stools of three days' duration. His examination at this time revealed a thin, chronically ill patient with tenderness in the midepigastrium. The laboratory studies revealed a red count of 2 million with 6 gm. of hemoglobin; the feces were black and contained 4 plus blood; gastric analysis revealed 91 degrees of total acidity with 43 degrees of free acid. Following histamine injection, he had 107 degrees total acidity with 54 degrees of free acid. Barium enema was negative, and the gastrointestinal studies revealed hypermotility of the small bowel with rapid emptying of stomach through the gastroenterostomy. A constant irregular fleck of barium was noted at the site of the previous gastroenterostomy. A diagnosis of marginal ulcer was made.

On June 6, 1949, he was operated upon, at which time a large marginal ulcer was found at the site of the posterior gastroenterostomy. There was considerable edema and inflammation in this area. There was no evidence of obstruction. The terminal ileum and cecum were stenotic, but there was no evidence of recent inflammation. The remaining defunctionalized jejunum was normal, so that it was brought into the entire circuit, thereby providing the patient with about 3½ feet of normal small bowel between the ligament of Treitz and the transverse jejunocolostomy. A bilateral vagus resection was then performed.

Following surgery he had diarrhea for a short period of time. He was relieved of his severe attacks of abdominal pain and showed no evidence of further bleeding. He gained in weight and strength, building up from 95 to 125 pounds in six weeks. Prior to his discharge he was asymptomatic and was having one to two bowel movements a day. A repeat gastrointestinal series revealed complete healing of the marginal ulcer

(fig. 3), and a gastric analysis revealed 7 degrees total acidity and no free acid.

Case No. 2—This 39 year old white male was admitted to the medical service on Oct. 26, 1946, with a diagnosis of nephritis, type undetermined. At the time of admission the patient's main complaint was a feeling of excessive gas in the abdomen associated with dull, heavy, nonradiating midepigastric pains. These were intermittent in type, and he had periods from one to two weeks in length during which he was free of symptoms. He first began noticing the abdominal distress in the latter part of 1943 following his entry into the army. He stated that he had often felt nauseated with the attacks but did not vomit. His bowels were regular, and he had no melena. He could obtain relief by the use of soda or buttermilk. In March 1946 the symptoms became more severe. He had constant epigastric distress with excessive distension and flatus and some vomiting. From that time he was unable to relieve his distress with soda or milk.

In June 1946 he was admitted to a hospital where he was on the medical service for 21 days, and conservative treatment gave him some relief. An exploratory laparotomy was performed, and the patient stated that no ulcer or other pathologic process was found. Since the operation his symptoms continued unabated, although he had not been vomiting for the last few weeks. Fried and greasy foods seemed to aggravate his difficulty, while eating small amounts of food at frequent intervals made him feel slightly better.

The x-ray work-up of the patient revealed a normal gallbladder, and the barium enema was reported as negative. A gastrointestinal x-ray series revealed "inferior dilatation of the proximal portion of the horizontal limb of the second portion of the duodenum." No evidence of a filling defect was noted in the stomach or duodenum. A flat plate of the abdomen was also negative. Intravenous pyelography was likewise reported as being within normal limits, with the exception that there was some tortuosity of the left ureter at the pelvic junction.

On Nov. 18, 1946, a gastric analysis revealed a total acidity of 13 degrees before the meal and 29 degrees after the meal, with no free hydrochloric acid before the meal and 12 degrees after the meal. On two other occasions occult blood was reported as being present in stool examinations while the patient was on a meat-free diet. All other laboratory work was negative.

The patient was treated symptomatically for peptic ulcer for a time after admission, and it was felt that this was probably the cause of his

epigastric distress. On Jan. 31, 1947, an exploratory laparotomy was performed, at which time the terminal portion of the duodenum and the first 3 feet of the jejunum were found to be dilated and the intestinal wall was thickened. There was a sharp line of demarcation about 3 feet below the ligament of Treitz; the segment of jejunum above this point was definitely chronically inflamed, whereas the segments of bowel below this point were normal in every respect. There were no other areas of small or large bowel involved. The ileum, cecum and colon were normal. The mesentery of the proximal loop of jejunum was thickened, and lymphadenopathy was present. The stomach and duodenum were normal. There was no evidence of gastric or duodenal ulcer and no evidence of scarring of the first part of the duodenum. The biliary tract and liver were normal.

The patient improved following surgery; however, several months later he developed midepigastric pains between meals, nausea and vomiting and loss of weight. On readmission to the hospital the x-rays revealed a gastric ulcer on the lesser curvature of the stomach. On June 14, 1948, a partial gastrectomy was performed. The colon and small bowel appeared normal. There was no evidence of enteritis at this time. The patient made an uneventful recovery and showed improvement. He returned on several occasions because of symptoms of postgastrectomy gastritis.

Repeated oral barium studies revealed normal functioning gastric stoma with dilatation and segmentation of the barium in the small bowel. The small bowel transit time was normal. Gastric



Fig. 4. Case 3—Barium motor meal study reveals puddling and obstruction of terminal ileum.

analysis four months following resection revealed a total acidity of 13-19 degrees and absence of free acid before and after histamine injection.

Case No. 3—A white male, 32 years of age, was admitted on May 29, 1948, for treatment of abdominal pain, weight loss and constipation. He stated his complaints started following an appendectomy in 1940. He revealed evidence of low grade obstruction of the colon in the upper rectal region. The barium enema revealed an obstruction in the area above, but it appeared as though the obstruction was extrinsic; however, a neoplasm could not be ruled out.

The laboratory studies were normal, and proctoscopy did not reveal an intrinsic lesion; however, the scope could not be passed beyond the obstruction because of angulation and local pain.

On June 24, 1948, the abdomen was explored, at which time a firm mass was found in the re-

lower quadrant of the peritoneal cavity, which was evacuated five days following surgery, and an ileostomy was performed in order to by-pass the inflammatory process in the distal ileum. The patient then developed two draining sinuses which were in the right lower quadrant and communicated with the ileum and cecum as demon-



Fig. 6. Case 3—Postoperative barium studies of colon and small bowel studies revealing functional ileotransverse colostomy and normal small bowel pattern.

strated by a lipiodol injection of the tracts (fig. 5).

On Aug. 10, 1948, an ileotransverse colostomy was performed. The terminal ileum was divided above the site of the lesion and the distal stump inverted. The patient improved rapidly; the sinus tracts healed. Barium enema studies were normal, and motor meal studies of the small bowel were normal except for a rapid transit time (fig. 6). The patient complained of mild diarrhea.

Case No. 4—A white male, 22 years of age, was admitted to the hospital on July 2, 1948, with the complaint of recurrent episodes of cramping pain in the right lower quadrant for the past five years. During these episodes of pain he had loss of appetite, and during the past two months he lost 25 pounds in weight.

The physical examination revealed a thin, chronically ill male. There was a palpable mass in the right lower quadrant. The mass was 3 by 1 inches in size. The laboratory examinations revealed a white blood count of 13,000 with 83 per cent polymorphonuclears. The red blood count was normal. The x-ray motor meal studies revealed a persistent narrowing of the terminal ileum with pooling of the barium proximally (fig. 7). The barium enema was negative.

On July 14, 1948, upon opening the abdomen,

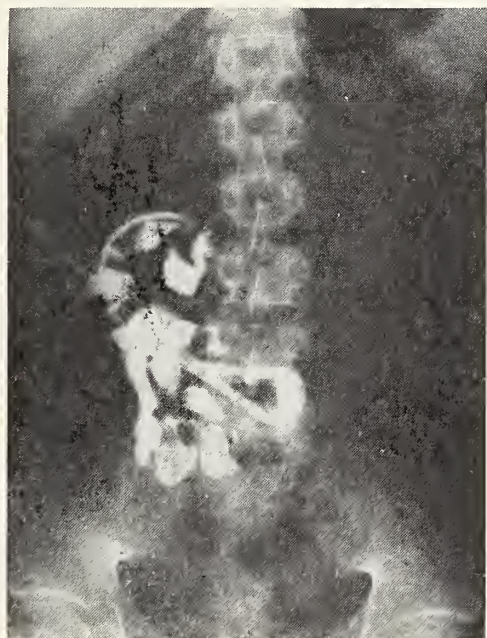


Fig. 5. Case 3—Catheter passed into sinus tract of the abdominal wall; injection of lipiodol reveals communication of tract with terminal ileum.

gion of the rectosigmoid junction, with the terminal ileum bound down in this inflammatory granulomatous mass. There was no intrinsic lesion of the colon. A biopsy revealed no evidence of malignancy.

It was felt that the primary pathology was a regional enteritis involving a short segment of the ileum (fig. 4). The granuloma was resected along with the involved ileum. An enteroenterostomy was performed. The pathologic diagnosis was chronic enteritis, nonspecific.

The patient developed an abscess in the right

a firm irregular mass involving the terminal ileum and posterior inferior portion of the cecum was found. The mass measured $2\frac{1}{2}$ inches in diameter. There was definite thickening and scarring of the distal 12 inches of the ileum. The remain-



Fig. 7. Case 4—Barium motor meal study of small bowel reveals persistent narrowing of terminal ileum and puddling proximal to area of beginning stenosis.

ing portion of the small bowel and colon were normal. There were many large, soft, lymph nodes in the mesentery of the small bowel. Frozen section of the local nodes revealed no evidence of malignancy. The right half of the colon and terminal ileum were resected, and an ileotransverse colostomy was performed. The pathologic diagnosis was regional enteritis involving the ileum, cecum and appendix.

The patient's postoperative course was uneventful, and a follow-up study in six months revealed the patient to have gained weight. His only complaints were attacks of diarrhea at times.

Case No. 5—A white male, 25 years of age, was admitted to the hospital on Nov. 5, 1948, with complaints of a palpable mass in the right lower quadrant, pains, chills and fever.

On Feb. 7, 1948, during an attack of epigastric pains, nausea and local tenderness in the right side, he had been admitted elsewhere, and an appendectomy was performed. The findings at that time were reported that the appendix was bound down and kinked. The mesentery of the terminal ileum and mesoappendix were found to be thickened at the time of surgery. The terminal ileum and cecum were normal.

Ten days following the appendectomy he developed a small amount of serosanguineous drainage from the wound. About three months later he returned to the same hospital with complaints of abdominal pains, nausea, anorexia and occasional diarrhea. A barium enema revealed a defect at the lower tip of the cecum. The gastrointestinal series and motor meal studies were normal.

In September of the same year he returned to the same hospital with similar complaints. He was seen again in October 1948, at which time a mass, 4 by 6 cm., was palpable in the right lower quadrant. At this time the barium enema revealed a defect of the cecum and narrowing of the terminal ileum (fig. 8). An operation was advised, and the patient sought admission to this hospital. The examination on admission revealed a rounded, smooth mass which was movable, about 7 by 6 cm. in size, occupying the right lower quad-



Fig. 8. Case 5—Barium motor study of small bowel reveals segmentation, narrowing and delayed emptying of terminal ileum.

rant. The laboratory studies revealed a white blood count of 18,200 with 64 per cent neutrophils, 3 per cent eosinophils, 31 per cent lymphocytes and 2 per cent monocytes.

On Nov. 10, 1948, the abdomen was explored, at which time a firm, irregular mass was found in the right lower quadrant consisting of the omentum, cecum, terminal ileum and transverse colon. The mass was adherent to the anterior abdominal wall. Several small lymph nodes were

palpable in the mesentery. A frozen-section study of the regional nodes revealed no evidence of malignancy. A resection of the right half of the colon, terminal ileum and regional nodes was accomplished and an end to end ileotransverse colostomy performed (fig. 9). A diagnosis of regional enterocolitis was entertained, but malignancy was not definitely ruled out. The pathologic diagnosis was chronic regional enterocolitis, nonspecific.



Fig. 9. Case 5—Postoperative lateral view of barium enema study revealing an end to end ileotransverse colostomy.

The patient's postoperative course was uneventful. The follow-up study six months later revealed the patient to be in good health with no abdominal complaints.

Results

In a series of 55 cases of primary resection of the disease process, which included the pathologic terminal ileum and adjacent normal ileum and ascending colon, with either an ileotransverse colostomy or ileosigmoidostomy, the recurrence rate was 19.5 per cent and the primary operative mortality rate was 16.3 per cent.^{7, 8}

In the ileotransverse colostomy or ileosigmoidostomy group with transection of the ileum in a series of 65 cases no operative deaths resulted. A recurrence rate of 13.8 per cent occurred.^{7, 8}

In a series of 25 cases of two stage ileocolic resection, which consisted of a primary short-circuiting ileocolostomy above the lesion with transection of the ileum followed after a period of

time by resection of the original area of disease in the terminal ileum, cecum and ascending colon, the postoperative mortality was 12 per cent and the recurrence rate 36.3 per cent.^{7, 8}

In a series of 24 cases recently reported in which a radical resection with ileocolostomy was performed, the operative mortality was 8.3 per cent and the recurrence rate 73 per cent. These cases had been followed from 1 to 10 years.¹¹ These authors were discouraged by these results, so that in the past two years they have elected to use ileocolostomy with the exclusion of the diseased bowel in 6 cases. There was a recurrence rate of 16.5 per cent and no deaths.¹¹

In a series of 14 cases which were resected and an ileocolostomy was performed, there was one death and one case that developed a recurrence, a 7.1 per cent mortality and recurrence rate.¹⁶

In a series of 100 operative cases of nonspecific ileocolitis, reported in 1941,¹⁴ there was a mortality of 21.9 per cent in 32 patients who had a one stage resection; 3 per cent mortality in 64 patients who were treated by a two stage resection; 20 per cent mortality in 4 cases who had multiple stage operations.

In a series of 9 cases reported in 1947¹⁵ one case had a drainage of an abscess and sinus tract; one case had an excision of a sinus; 6 cases had resections, and 2 cases had an ileosigmoidostomy. Sixty-six per cent of these cases had resection. There were no deaths.

In the series of 5 cases reported in this paper the first case had multiple operative procedures followed by jejunocolostomy; the second patient, a segmental resection of the upper jejunum with short circuiting of another portion of jejunum and a jejunojejunostomy; the third case, an ileotransverse colostomy; and the last 2 cases, resection of the right half of the colon and terminal ileum with an ileotransverse colostomy. There were no deaths, and after a follow-up of 1 to 3 years there was no evidence of recurrence.

Summary and Conclusions

1. A general review of the important features of regional enteritis has been presented.
2. The results of the surgical management of this disease by various groups were reported.
3. Five cases were presented in this report, revealing the various segments of bowel which may become involved in the disease process.
4. The results following the various type surgical procedures performed in our cases were presented.
5. As a result of our experience with this condition and our evaluation of the results of other series reported, we believe that the surgical pro-

cedure of choice in the treatment of regional enteritis, complicated by obstruction, abscess, fistulas and advancing stages of the disease process, is an ileotransverse colostomy with transection of the involved small bowel.

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RHEUMATISM

Comments on the Observations of Approximately 500 Cases of Rheumatic Diseases in a Private Practice

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This article is presented with the purpose of acquainting the medical practitioner with the fundamentals necessary for the diagnosis and treatment of the common rheumatic diseases with comments on the most frequently neglected factors which are necessary to the successful treatment of these patients. These observations are collected from the study of about 500 cases of rheumatic diseases in a private practice in the Middle West over a period of about two years. Few statistics are given, and no attempt is made to do other than point out present-day facts which might aid one in managing his rheumatic patients.

Rheumatism is called the "King of Human Miseries," and rightfully so in that it is one of the most common and yet probably most neglected diseases in the world today. This may seem

strange since it is also one of the oldest known diseases. This may be explained by the fact that the main causes have still not been discovered, and it is only recently that it has been taught to any appreciable extent in medical training, except of course in specialized centers. Also, the diagnosis is quite time-consuming and the proper treatment requires a carefully planned and supervised, long-time program which the average busy family physician cannot afford to spend. With the recent large number of articles in the press and magazines following the announcement of the discovery of "Compound E," the rheumatic public is impressing on the physicians the great need for adequate medical care of the rheumatic individual.

Another reason that the progress of investigation in rheumatic diseases has been slow is that it is not a "killer." The great strides that have been made in tuberculosis and at the present time are under way in cancer and heart disease are due to the fact that they are at or near the head of the list of the causes of death. Likewise, as the most commonly chronic types of rheumatic diseases have their remissions, the average patient too frequently does not consult the physician until irreparable changes have taken place. In that there are hundreds of rheumatic remedies available at all drug counters, the patient may maintain pain relief and feel that his disease is being cured while actually it continues to progress. As in the case of tuberculosis, the education of the public will play an important step in furthering the control of rheumatic diseases.

Rheumatism is not a scientific term, but really a lay term, as about 200 types have been described. It is the same as making the statement, "I have an automobile." According to Dorland's *Medical Dictionary*, rheumatism is "a constitutional disease marked by inflammation of the connective tissue structures of the body, especially the muscles and joints. . . ." Fortunately about 10 of these types make up 80 to 90 per cent of the most commonly seen cases. Likewise, with some 100 types of arthritis recorded, a similar percentage fall into about seven groups. For practical purposes, the majority of cases can be grouped under the recently prepared classification by the American Rheumatism Association (table 1).

Table I.—*Classification of Rheumatic Diseases*

1. Arthritis due to infection. Specify joint and infection when known.
2. Arthritis due to rheumatic fever.
3. Arthritis, rheumatoid, of Specify as: multiple or spine.
4. Arthritis due to direct trauma of Specify joint and trauma.

5. Neurogenic arthropathy.
6. Arthritis due to gout.
7. Degenerative joint disease, multiple, due to unknown cause.
8. New growths of joints. Specify joint and neoplasm as: synovioma of knee.
9. Hydrarthrosis, intermittent, of Specify joint.
10. Fibrositis. Specify joint or area.
11. Myositis, bursitis, neuritis and neuralgia. Specify muscle, bursa or nerve involved.
12. Diseases in which arthritis, arthropathy or arthralgia is frequently associated (diagnose disease, list joint manifestation as symptom):
 Acromegaly
 Acute disseminated lupus erythematosus
 Cyst of meniscus of knee
 Dermatomyositis
 Drug intoxication. Specify drug when known.
 Erythema multiforme exudativum
 Erythema nodosum
 Hemophilia
 Hysteria
 Ochronosis
 Osteochondritis dissecans
 Osteochondromatosis
 Periarthritis nodosa
 Psoriasis
 Purpura, various types
 Raynaud's disease
 Reiter's syndrome
 Scleroderma
 Serum sickness

It is well to emphasize here that the physician must have an adequate understanding of the types of rheumatic diseases to be able to prescribe satisfactory treatment. Many apprehensive patients are alarmed by slight muscular pain and require thorough study to eliminate true rheumatic disease and then, with this being eliminated, reassurance. This may require a period of observation, and it is difficult to contain the present American public who is trained to rapid, pointed decisions. It is important to relieve these people of their symptoms and at the same time keep them under observation to prove or disprove the onset of a chronic disease process.

Once a probable diagnosis has been made, the patient desires to know why he has the disease and the cause of it. As stated before, in the majority of cases seen in the average practice the cause is unknown, but the numerous theories which have been expressed through the lay literature are soon remembered, and it is often difficult to explain the difference between theory and

fact to a worried rheumatic. It is well to explain that it is probably an "arthritis diathesis" as laymen are cognizant of "heart and cancer body weakness" plus the presence of the exciting factor of fatigue, worry, infection or trauma. It should be emphasized that the exciting factor may be trivial and may have existed over many weeks or even months. The public has long been conscious of the relationship between focal infection and rheumatism. This should be suited to the individual case, obvious foci corrected and possible foci eliminated if the response to therapy is unsatisfactory. The effects of undernourishment, obesity, aging and simple glandular deficiencies are well known.

The advent of both "compound E" and "ACTH" (adrenocorticotrophic hormone) and their apparent good results in rheumatoid arthritis may be the beginning of a solution of the complex chemical problems which permit the lessened durability of connective tissue and synovial tissue to lead to the rheumatic diseases. Only time will give the answer, but a new physiologic approach has been given momentum.

The diagnosis of the specific, traumatic and less common types which are only a small portion of the total is not considered in this paper. I will mention briefly a few points in the diagnosis of the four most common types observed: (1) fibrositis, (2) rheumatoid arthritis, (3) degenerative arthritis, and (4) psychogenic rheumatism. Fibrositis is placed first because I believe the symptoms that are responsible for the patient's consulting the physician are usually fibrositic, either primary or secondary. The majority of cases of degenerative arthritis and primary fibrositis do not attend the larger clinics, so that recorded statistics do not represent a true incidence of these diseases. In our clinic the incidence is about: fibrositis (primary) 30-40 per cent; degenerative arthritis 30-40 per cent; rheumatoid arthritis 10-20 per cent; and psychogenic rheumatism 20-30 per cent. The importance of this incidence will be emphasized later in reference to therapy and reassurance to the patient.

Fibrositis

Fibrositis, or nonarticular rheumatism, involves the nonarticular fibrous tissues and is probably the best suitable term considering the numerous structures involved. It is objected to because there is still some doubt about whether it is a true inflammation. It may be localized or generalized but presents constant clinical features. Most frequently, the onset is insidious, but it may be sudden. Aching, stiffness and "jelling" are the most prominent symptoms. Dampness, cold and rest aggravate the symptoms, and dry,

warm weather usually alleviates the symptoms. A characteristic feature is the diphasic daily curve wherein the patient feels best at the middle of the day after he has become "loosened." General symptoms are lacking except for fatigability, and the patient is usually exasperated in that most of his relatives and friends do not believe that he is ill because he appears the picture of health. The course is remittent or intermittent, and relapses are initiated by overexertion, sudden weather changes, infections and probably psychic trauma. Physical examination is essentially negative except for the constant tender areas, with "trigger areas" usually relieved with procaine injections.

Laboratory tests are within normal limits, and x-ray examinations do not reveal joint changes after the lapse of several months or years. In early cases it is of utmost importance to observe the case for a sufficient period of time to rule out early rheumatoid arthritis. Prognosis and treatment will be discussed under a general heading.

Rheumatoid Arthritis

The diagnosis of rheumatoid arthritis should be made as early as possible, as this is the type of rheumatic disease that affects the individual in the prime of life and may progress to the "crippling" stage where the individual cannot support himself and is dependent on others for a long, unhappy life. As a rule, the criterion for diagnosis is definite, and only the early and atypical cases are difficult. Here it should be emphasized that the practitioner should constantly be alert to the possibility of rheumatoid arthritis and continue close observance of the case until the diagnosis is proved. It should be remembered that rheumatoid arthritis is a systemic disease, and general symptoms ultimately are present. Locally, there is symmetric involvement of the smaller joints with resultant muscular weakness and atrophy. Subcutaneous nodules are frequently present. The sedimentation rate is elevated, and agglutination tests with hemolytic *Streptococci* are usually positive. X-Ray changes of osteoporosis and narrowed joint spaces usually appear within 9 to 12 months. As the disease progresses, this is followed by ankylosis. Small punched-out areas in the ends of the bones may at times simulate the x-ray picture of gout. In case of doubt articular biopsy will prove helpful in establishing the diagnosis.

Rheumatoid spondylitis, probably a special variety of rheumatoid arthritis and Still's disease, a juvenile type, is an atypical form that requires somewhat similar but specialized treatment.

Degenerative Arthritis

The degenerative type of joint disease may be compared to wrinkling of the skin and arterio-

sclerosis. In other words, the joints "wear out." This form occurs in older people, and the first symptoms are stiffness and painful motion in and about the joints. This occurs usually in the joints subjected to the most constant trauma, as the knees in obese individuals. Crepitatio occurs early, and full motion and weight bearing are painful. This is followed by joint margin tenderness and slight thickening of the periarticular tissues. Heberden's nodes are one of the more common, noticeable involvements. These are usually not painful and not associated with other joint involvement in many cases. Muscle atrophy is noticeably lacking, and there are no general symptoms. Laboratory tests are within normal limits and x-rays show variable changes, usually subchondral condensations, lipping and spurs but with a normal joint space, except in involvement of the weight-bearing joints. It must also be remembered that rheumatoid arthritis and degenerative arthritis may coexist.

Psychogenic Rheumatism

This type is frequently difficult to differentiate from true fibrositis because there are no joint changes exhibited clinically or roentgenographically and all laboratory tests are within normal limits. However, the diphasic daily curve of fibrositis is lacking; relief from heat, massage and analgesics is inconstant, and the presence of other psychoneurotic features are of aid in the diagnosis. The injection of procaine into tender areas usually presents bizarre radiations and variation of relief and quite often an impossible variation of sensation.

Prognosis

The prognosis is dependent on accurate diagnosis, and it is here that the physician exhibits his skill in the art of medicine. If there is doubt as to the diagnosis, the patient must be relieved of his symptoms and persuaded to continue observation until the diagnosis is certain. Rheumatoid arthritis, being a remittent disease, requires great tact to keep the individual under observation when he is symptom-free. Conversely, once the diagnosis of rheumatoid arthritis is made, the patient must be reassured that he will probably not become a cripple as modern methods of therapy have changed the final result in the majority of cases. He must be impressed with the fact that his disease may only be arrested, and it will be necessary to have periodic check-ups to prevent relapses. I find that comparing the disease to tuberculosis, with which disease the public has become educated, is the best method of obtaining the patient's continued cooperation. It is also necessary to point out that there is no connection

between these diseases but merely a comparison as to the treatment of a disease with which he is more familiar.

An accurate prognosis is impossible; the most severe case may suddenly revert its course, or a mild course may progress to the crippling stage. The majority of these patients are depressed because of their disease, the expense of the therapy and the changes in their mode of living, so intensive psychotherapy is continually necessary.

Once rheumatoid arthritis has been ruled out, the patient can be assured of a relatively good outlook. If the diagnosis is fibrositis, he should be informed that the symptoms can usually be relieved by treatment, but that they are apt to recur with certain exciting causes, and when these exciting factors are recognized and avoided, the symptoms can be held to a minimum. In other words, the skeletal tissues cannot be overexerted without the reaction of pain and stiffness.

The patient with degenerative arthritis should also be informed of the nature of his disease, i. e. that it is due to "wear and tear" and that the symptoms must be controlled and alleviated by appropriate measures. These will permit him to live a fairly comfortable life if the general principles of protecting one's structures are adhered to. One does not readily accept the fact that he is growing old, but being compared to a motor often illustrates the point that fast driving or long distant driving wears out the driving parts more rapidly. This explanation plus the assurance that he will not become a severely crippled individual gives the patient the proper perspective of his condition.

The prognosis of the individual with psychogenic rheumatism is similar to that of any psychoneurotic condition. These patients may well be referred to a psychiatrist quite early if expected results are not forthcoming with the usual treatment. Also, a coexistent psychosomatic component associated with fibrositis and degenerative arthritis must be evaluated and properly treated to attain optimum results in these cases.

Treatment

The various treatments of the rheumatic diseases have been reviewed more and more frequently in the literature, and it will suffice here to mention and emphasize the most important at the present time and to point out what may be expected of them. First of all, it must be remembered that we do not have any specific treatment for rheumatoid arthritis and fibrositis, as the cause of these diseases is still unknown. Degenerative arthritis is the wearing-out process, and until we discover the secret of eternal living

or the "Fountain of Youth," this disease will be more frequently encountered as the span of life increases. Psychogenic rheumatism, being a local manifestation of a psychoneurosis, places its management in the guiding hands of a psychotherapist after all organic factors have been corrected.

The general factors of rest, physiotherapy and pain relief form the framework for the treatment of all of this group of diseases and, in my experience, are the most neglected by the average practitioner. This probably occurs because the patient is seeking a quick, miraculous cure, and the physician is misled into trying some of the more spectacular drugs without the benefit of the basic trio. As the usual 30 per cent obtain fairly satisfactory results with any therapy, he will continue treating many other patients with the more satisfactory methods of his experience during the crucial period of the patient's disease.

Rest is well recognized in the treatment of all acute infections and constitutional diseases, so why shouldn't it be of equal value in rheumatoid arthritis, which is a constitutional infectious disease? It is necessary that these patients have increased daily rest hours. It should be recommended and insisted on that they have 12 to 14 hours of rest, both physical and mental, each day. This is most easily adapted to a 10 hour period at night and a one to two hour period in midmorning and midafternoon. As the average American today is attempting to crowd more and more hours of activity into each 24, it requires great persuasion to impress the patient with the importance of rest. This may entail his giving up social activities, which are so important to the younger individuals, or the changing of occupation. So again it is usually advantageous to compare this disease with tuberculosis and to bring out that we are pointing for the future more than for the present. As to the question which is always asked, "How long?," one must answer that it depends on the results and may be from a few months to years, and also to add that, as a rule, the more concentrated the efforts of the individual, the better the response and the shorter the length of time required for treatment.

The failure of the medical profession, as a whole, to recognize the value of physiotherapy is, I believe, the answer to the success of the osteopath and the chiropractor. These groups recognize this fact and capitalize on it by providing the rheumatic patient with the temporary relief that these measures provide. If every medical doctor would observe the excellent physiotherapy treatment outlined to patients at the Mayo Clinic, it would be invaluable in his armamentarium in the treatment of rheumatic diseases.

The simple home measures—regular, daily use of heat and massage—are all important. These include infra-red lamps, electric bakers and pads, hot baths and packs, paraffin baths and every practical application of heat. This should be followed by massage, and the principles can be taught to a member of the family in a short time. The use of rubefacients, which is of great importance to the patient, is usually a point of issue and should not be dismissed lightly, as this is the main means of persuading the “masseur or masseuse” to perform an adequate massage regularly. The most important point to put over is the daily consistent performance of this menial task to obtain the optimum benefits from this form of therapy.

The American public is very diet conscious and of the belief that diets can cure any disease. Consequently, one of the first questions asked is about a specific diet for his rheumatism. Of course, it is well recognized, except with a few specialized rheumatic diseases, that specific diets are relatively not of primary importance. The rheumatoid arthritic who is underweight should have a high caloric, high vitamin diet. The usual degenerative arthritic is overweight and should be reduced to an optimum weight to lessen the “wear and tear” on the weight-bearing joints. In general, the diet should be adapted to the individual patient and his requirements.

There are always two prime requisites in the treatment of a disease—the cure and the relief of symptoms. So, in many of the rheumatic diseases where there is no known cure the important problem is to alleviate the symptoms and teach the patient to live with his disease. Pain must be controlled, and the long-used salicylates still are our best drug for accomplishing this. Sodium salicylate and aspirin are the most economical and as effective as any of the more highly advertised drugs. The usual error is in not giving a sufficient dosage for relief. I use from 80 to 200 grains of sodium salicylate daily, depending upon the patient's tolerance for this drug. Many patients can tolerate aspirin in doses from 45 to 80 grains daily, divided into morning and evening doses and intermediate doses as necessary for relief. At the onset it is advisable to use small doses of opiates to attain rest and cooperation of the patient, but these drugs should be discontinued after a short time. Many times I have had patients who have not had a night's rest for several weeks due to the pain and painful motion plus worry and tension, and after the alleviation of these symptoms with small doses of opiates and sedatives they were much relieved.

As a rule, these medications are only necessary for a short period of time, and I insist upon their discontinuance after a period of two or three weeks. As there is a marked variability in the symptoms, the patient must be instructed to keep his symptoms controlled with a minimum amount of medication. Utilization of various combinations of salicylates may prove helpful even though there is no definite rationale for this type of treatment.

With strict adherence to the above essentials, about 50 per cent of the patients will improve, especially the early cases. Again, it is well to emphasize that the rheumatic must be taught to live within the limits of his musculoskeletal system. If the results are not as expected and the case has reached the plateau phase, other medications may be advocated. All obvious foci should, of course, have been eliminated, and after six to nine months of treatment without expected improvement the case should be rechecked and suspicious foci eliminated. I have found it advisable after several months without the expected improvement to discard all previous data and examine the patient anew, as with a new case, and am not infrequently surprised at the results of the findings.

Among other measures intravenous typhoid vaccine occasionally gives encouraging results, and this should be tried in the cases which are not making expected improvement. This administration and its contraindications have been well known for many years. Other vaccines, metals, bee venom, chaulmoogra oil, and vitamins B, C, D and E have their advocates and the apparent 30 per cent satisfactory results. Chrysotherapy is, by agreement of many competent observers, the best treatment for rheumatoid arthritis available at the present time. Its use, reactions and limitations have been adequately reviewed in many articles. This should be prescribed in moderately advanced, resistant or typical early cases of rheumatoid arthritis by one who is experienced in the use of gold or a practitioner who will observe carefully for toxic reactions. These reactions are of much less incidence with the smaller doses now in use. The use of BAL (2, 3-dimercaptopropanol) for toxic reactions is encouraging. In a few recent cases with skin reactions the administration of vitamin B-12 has resulted in rapid disappearance of the lesions already present and a subsidence of itching when no lesions were apparent. As many authorities contend gold is an hepatic poison and B-12 is a potent vitamin originally isolated from the liver, it seems possible that there might be some relationship. No definite conclusions can be made, but I now give 15 micro-

grams with each gold injection. In many cases of both rheumatic and degenerative arthritis I have noted that the fibrositic symptoms were apparently quite markedly alleviated in using B-12. I have also tried its use in several fibrositic cases with apparently favorable results. The number of these cases has been rather small and I have not been able to draw any definite conclusions at the present time, but it would appear that there may be some value in its use and I am continuing it in many cases to observe if their results can be duplicated. The results of this study will be reported in a later paper. The length of time that gold must be administered is not established, but it is becoming more apparent that a maintenance dose at two to four week intervals for an indefinite time is the preferable method of treatment. Again, it should be emphasized that while gold is our best agent for rheumatoid arthritis, it is toxic and its use must be carefully supervised. The use of gold in rheumatic spondylitis, degenerative arthritis and fibrositis has proved of no benefit.

X-Ray therapy has proved of definite value in about 75 per cent of rheumatoid spondylitis cases. However, it has not proved to date to be of any definite value in degenerative arthritis or peripheral rheumatoid arthritis. Its use in fibrositis, also, has not been encouraging.

Endocrine therapy is of doubtful value but does warrant a trial in unresponsive cases, especially in individuals in the menopausal age group. Recently I observed some gratifying results in fibrositis with intensive hormonal therapy, but again the number of cases is too small to draw any definite conclusions. With the employment of larger doses the results seem more impressive, and with the recent beneficial effects of steroid compounds another approach to the treatment of rheumatoid arthritis and fibrositis is worthy of a trial. Their use must be carefully supervised as the toxic reactions are yet unknown. The results of this study will be presented in a later article.

Sulfonamides and antibiotics, which have a definite place in specific arthritides, are only helpful in eliminating aggravating infection, and occasionally where there is a low grade postpharyngeal infection, beneficial results are noted.

The hundreds of other measures that have been advocated have proved ineffectual and are not worthy of discussion in a paper on the practical approach to the modern therapy of rheumatism. One exception to this statement is the use of local procaine injections in fibrositis. The injection of tender areas, especially "trigger points," has given

satisfactory results. There has been much in the literature on this type of treatment recently, and I can only add that it frequently does give gratifying results. I am using this more and more often in the treatment of the fibrositic patient who does have a constant tender area or a "trigger point." The use of this type of therapy is well discussed in the more recent textbooks on arthritis and several recent articles in the literature, and these should be consulted if one contemplates this therapy. Intravenous procaine can be useful in controlling pain and spasm in all rheumatic diseases but holds most promise in the treatment of destructive arthritis and in rheumatoid arthritis, so that the maximum results of physiotherapy can be accomplished.

Summary

This paper is written with the purpose of presenting some of the practical problems to the general practitioner concerning the more neglected factors in the present day therapy of rheumatic diseases. The observations are taken from the study of approximately 500 cases over a period of two years in a specialized practice in a Midwestern community.

Rheumatoid arthritis is the "great crippler," as it is not recognized and given serious consideration in the early stages. The rheumatic public is becoming more rapidly conscious of recent advances in therapy. A general educational program to the laymen, as has been accomplished with tuberculosis and cancer, will be necessary to adequately control the disease until the discovery of the causes and specific treatment is known.

The more common types encountered in a general practice are discussed as to the incidence, diagnosis, prognosis and treatment. Emphasis is placed on the more practical considerations and the apparent pitfalls in management. There is no specific treatment, and the measures most practical are stressed. The individual must be treated and not the joints *per se*. Special consideration is given to rheumatoid arthritis, the type affecting the younger individual in the prime of life in which early, continuous and intensive treatment is necessary to prevent serious crippling and economic loss.

The individual with degenerative arthritis and fibrositis must be taught to live with his disease, and common sense measures must be instituted to provide the maximum in systematic relief since there is no definite cure.

The basic principles of the treatment of all rheumatic diseases—rest, physiotherapy and relief from pain and symptoms—are stressed. Gold therapy is discussed as the best-accepted treatment

for rheumatoid arthritis available at the present time. The use of cortisone and ACTH during the past year offers the most valuable advancement in the treatment of rheumatic disease of all time. Even though its use has been largely limited to rheumatoid arthritis, the marked alleviation of the fibrositic element that has been witnessed gives us hope that with its availability the relief of symptoms of the patients with degenerative arthritis and fibrositis will be quite marked. As one patient told me recently, "I hope that with this treatment I am receiving I can keep as well as I am until this new compound E is available, and I understand that it probably won't be for at least two years." This statement is enlightening, as it does give the individual a new hope which, I believe, is the most promising of all time for rheumatic sufferers. However, at the present time there are sufficient therapeutic measures available so that the average rheumatic sufferer can be given great help in alleviating his symptoms and enabling him to carry on a fairly satisfactory and active life. Also, the possibilities of the benefit of B-12 and massive doses of sexual steroids are suggested.

The education of the public in regard to early symptoms and the need of early treatment, as with cardiac disease and cancer, will be necessary to bring rheumatic diseases under control, so it is the duty of every practitioner to aid in this general educational program to accomplish this as soon as possible.

THE EFFECT OF URETHANE IN MULTIPLE MYELOMA*

Report of 4 Cases

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Urethane (ethyl carbamate) was introduced into medical practice by Schmiedeberg in 1885 for its soporific effect. In certain animals it sedated rapidly and effectively, but in man this action was inconsistent and weak. Thus the drug was used chiefly as an anesthetic for animals in physiology laboratories. Later it was noted that urethane had a growth-suppressive action on many forms of plant and animal life. This activity of the drug was not utilized until 1946 when Haddow and Sexton¹ reported studies of its inhibitory effect on experimental cancers in mice. These investigators found that while the mice received the drug, the tumors showed no increase in size and that growth was resumed when the drug was dis-

continued. Microscopic studies revealed that after urethane administration the cellularity of the tumors decreased and the fibrous connective tissue increased.

Paterson, Ap Thomas, Haddow and Watkinson² then reported some use of this drug in the treatment of advanced malignancies in human beings. The effect on these tumors was inconsistent. They did observe, however, that the white blood count was consistently depressed. This observation led to the use of urethane in the treatment of the leukemias. Here the effect of the drug was encouraging because in certain cases amelioration of both the symptoms and signs of the disease occurred. This effect was most pronounced and constant in myelogenic leukemia. Their observations led to a widespread use of urethane in the treatment of leukemia.

Multiple myeloma is a progressive malignant disease in which abnormal plasma cells replace the normal bony structure of the skeletal system with consequent decalcification and loss of bone strength. In some cases the plasma cells also infiltrate the soft tissues or appear in the peripheral blood in such numbers as to resemble a leukemia. Associated with these changes may be anemia, proteinuria, containing at times Bence-Jones protein, renal insufficiency, increase in the serum globulins and fever. The clinical aspects of this disease have been thoroughly discussed in recent reviews published by Adams, Alling and Lawrence,³ and by Bayrd and Hech.⁴

Many different methods of therapy have been employed in multiple myeloma. All of them, however, have failed to alter the final outcome of the disease. The following therapies are the most widely employed: (1) Roentgen treatment will give some relief from pain and is especially useful if the lesions are localized, as in solitary myeloma. (2) Radioactive phosphorus produces results comparable to those brought about by x-ray. The use of these compounds requires the presence of specially trained personnel. (3) Snapper⁵ recommends the use of stilbamidine and pentamidine in the treatment of the disease. The use of these compounds, which are curative in the treatment of kala-azar, was suggested by the presence of hyperglobulinemia in both kala-azar and multiple myeloma. A diet low in animal protein is recommended during therapy with these compounds. An unusual toxic manifestation occasionally follows the use of these drugs. This is the development of an anesthesia over the area supplied by the trigeminal nerve. The sensation of light touch is lost, but pain and temperature perception are retained. At best, palliation is all that is claimed for this therapy. Baker and

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Casterline,⁶ in the treatment of 4 cases of multiple myeloma with stilbamidine, found this form of therapy to be of slight use. (4) Nitrogen mustards have not as yet proved to be of any value in multiple myeloma.

Urethane has been used in the palliative treatment of a few cases of myeloma. Paterson and her associates reported urethane to be of no value in 2 cases. Alwall⁷ treated 2 cases with urethane and found that 1 case showed improvement. Berman and Axelrod⁸ treated 1 case but discontinued therapy after giving 72 gm. because a leukopenia developed. An optimistic report was recently published by Loge and Rundles.⁹ They employed urethane in the treatment of 4 cases of multiple myeloma and observed that in addition to relief from pain and an increased feeling of well being their patients showed some improvement in the decalcified area of bone and in the anemia. They observed no toxic reaction necessitating discontinuance of the drug.

Case Reports

Case 1. F. N.—A 57 year old retired army colonel was admitted to the Veterans Hospital on Nov. 13, 1948, complaining of severe pain in the lumbar region of his back. The patient's health had been fairly good until six months prior to admission when he was hospitalized for pneumonia. After twelve weeks' hospitalization he was discharged to convalesce at home. Two months before entry, while pulling weeds, he strained his back. After this incident he became bedfast because of severe pain in his back.

The past history revealed that he had been a prisoner of the Japanese for 42 months. He subsisted during this confinement on an inadequate diet, with the consequent loss of considerable weight. After his release he was examined at several army hospitals. The records of these hospitals revealed no relevant abnormalities, except that in October 1945 blood studies showed a serum albumin of 3.5 gm. per 100 cc. and a serum globulin of 3.4 gm. This change in the A/G ratio was not confirmed.

Physical examination revealed a pale, poorly nourished, middle-aged man, who moved about in bed with great care. Some tenderness on palpation was present over the lumbar spine and over the lower ribs. The normal curvature of his back was absent. No other significant findings were present.

Studies of his blood on admission revealed a red cell count of 2,600,000; hemoglobin of 9 gm.; calcium of 8.9 mg. per 100 cc.; serum albumin of 5 gm. per 100 cc.; globulin of 3.1 gm.; and a sedimentation rate (Cutler) of 36 mm. per

hour. Urinalysis showed a fixed specific gravity of 1.011, 4 plus albumin with the occasional presence of Bence-Jones proteinuria. X-Ray studies revealed a diffuse decalcification of all the skeleton but especially of the vertebrae, of which several in the lumbar region were collapsed. No typical punched-out areas could be seen.

The patient continued to complain of severe discomfort when he moved, and it was observed that he stayed in bed except for occasional trips to the bathroom in a wheel chair. On March 21 he was started on 3 gm. of urethane daily. Although he complained of some upper abdominal distress with anorexia, he was able to continue the dosage. After two or three weeks of this therapy he found the pain less severe, and it was noted that he was voluntarily out of bed more than before the start of treatment. This improvement continued, and in May he was able to leave the hospital for a short car ride. Since then he has been home on several convalescent leaves. He has had frequent upper respiratory infections, however, and has been given penicillin and sulfadiazine to control these infections. He has also been given a number of blood transfusions to keep his hemoglobin above 10 gm. In June the urethane dosage was reduced to 1 gm. daily. The patient, however, complained of more discomfort, and when the dosage was increased to 2 gm. daily, he again felt improved.

Case 2. O. T.—A 55 year old car repairman was admitted to the Veterans Hospital on Nov. 26, 1948, because of weakness of his legs. Eight weeks prior to entry he first noticed a weakness of his legs that he described as "weakness of the knees." One week later he noticed numbness and tingling of the feet and ankles. Six weeks before admission he discontinued work because of loss of strength in his legs. This weakness gradually became more severe. At the time of admission he was confined to bed. His past health had always been good except that 10 months prior to admission he developed an intermittent pain in his chest accentuated with deep breathing. A local physician diagnosed his trouble as a neuritis. Two months after onset the pain had completely disappeared and has not recurred.

At admission he had complete paralysis of the right leg and a partial paralysis of the left. Babinski's sign was present bilaterally. The knee jerks were present but more active on the left. Anesthesia was present over both legs up to the hips. X-Ray examination revealed destruction with almost complete collapse of the fourth dorsal vertebra. Laboratory findings were all within normal limits, except that the blood calcium was 11.9 mg. per 100 cc.

A laminectomy was performed on Jan. 4, 1949, and revealed a fleshy mass to be replacing the body of the fourth dorsal vertebra. A biopsy of this tissue showed plasma cells, and a diagnosis of myeloma, plasma cell type, was made. The patient was given intensive x-ray therapy over the mid-dorsal spine during February. He showed, however, only slight improvement.

On March 28, 1949, he was started on 3 gm. of urethane daily. During the second week of April he developed chills, fever, cough and bloody sputum. X-Ray of his chest showed a small area of consolidation. He was treated with penicillin and rapidly recovered. During the last part of April he began to show gradual improvement. He was able to be up and about and has been discharged from the hospital. At the present date he is able to do some work. Therapy of 1 gm. urethane daily is being continued.

Case 3. C.H.S.—A 54 year old male concession operator was admitted to the Veterans Hospital April 7, 1949, with an admitting diagnosis of multiple myeloma. Ten months prior to admission he first noted pain in the lumbar region of his spine, accentuated by lifting and sneezing. An x-ray examination of his spine four months later was reported to show marked decalcification of the fourth lumbar vertebra. On a repeat study six months after the onset of pain a diagnosis of possible metastasis to the fourth lumbar vertebra was made. Three weeks prior to entry a biopsy of that vertebra at another hospital showed a microscopic picture typical of multiple myeloma. The past history revealed nothing of significance.

Physical examination on admission revealed a pale, apprehensive man, who walked in a cautious manner. Some tenderness was elicited on palpation over the lower lumbar spine. No other significant physical findings were present. Examination of the blood disclosed a hemoglobin of 11.5 gm.; a red cell count of 3,300,000; sedimentation rate (Cutler) of 35 mm. in one hour; and a calcium of 11.5 mg. per 100 cc. The serum albumin was 4.1 gm. per 100 cc. and the serum globulin 3.4 gm. Examination of his urine showed a trace of albumin but no Bence-Jones protein. X-Ray studies of his lumbar spine revealed almost complete destruction of the fourth lumbar vertebra with some calcification anterior to that vertebra.

He was able to walk about the hospital with the aid of a back brace. A week after admission to the hospital he was started on 1 gm. of urethane three times a day. Two weeks later he began to note some increase in his feeling of well-being along with some decrease in the degree of pain in his back. Eight weeks after starting the

drug, studies of his blood revealed a hemoglobin of 8.5 gm. and a red cell count of 2,600,000. He felt sufficiently improved to request a 30 day convalescent leave, and this was permitted. It was later learned that the patient died in a hospital at Fargo, N. D., six weeks after the start of therapy. The diagnosis given was cachexia from a malignant tumor.

Case 4. C.Q.—A 57 year old hospital attendant was admitted to the Veterans Hospital on May 5, 1949, because of persistent pain in the chest that followed a minor injury to his chest. In the three months prior to entry the patient had noticed an unexplained loss of weight. Five weeks before admission, while riding in a car, he struck his chest against the steering wheel. Subsequent to this injury he noticed a dull, aching pain under the sternum accentuated with deep breathing and coughing. As the accident had seemed trivial, the persistence of the discomfort surprised him. Ten years ago he had been forced to retire from underground mining after 25 years of work because of advanced silicosis.

Physical examination revealed a well developed, well nourished man, not in acute distress. He had no significant findings. X-Ray of his chest revealed numerous small nodular areas of increased density which tended to become confluent and were interpreted as being due to silicosis. The electrocardiogram appeared normal. Urinalysis showed a specific gravity of 1.018 and no albumin nor sugar. Blood studies revealed a red cell count of 3,400,000; a hemoglobin of 10.5 gm.; a white cell count of 5,000 with 48 per cent neutrophils and 52 per cent lymphocytes. Sedimentation rate (Cutler) was 30 mm. per hour. Studies of his stools showed the presence of some occult blood. X-Ray studies of his colon and upper gastrointestinal tract, however, were reported as negative.

Eight weeks after admission it was noted that his blood showed an increased rouleau formation which suggested multiple myeloma. Blood studies at that time revealed the serum albumin to be 4.2 gm. per 100 cc. and serum globulin, 9.2 gm. Study of the bone marrow showed an increased number of abnormal plasma cells. X-Ray studies of the skull and pelvis revealed numerous punched-out areas suggestive of multiple myeloma.

On July 8 he was started on 3 gm. of urethane daily and given blood transfusions. After several weeks of therapy the patient's pain decreased, and he returned to duty as a hospital attendant. On July 26 he was pushed by a patient, fell and fractured his right hip. He was hospitalized and soon developed a fever, pain in the chest and

dyspnea. X-Ray of the chest showed a small area of pulmonary consolidation. On penicillin treatment his temperature returned to normal. During that episode the urethane was discontinued and then resumed after a 10 day lapse.

On August 8 he suddenly developed a tachycardia, dyspnea and cyanosis. An electrocardiographic diagnosis of a myocardial infarction of the posterior wall of the heart was made. He has gradually improved from this. At present he is in the hospital undergoing treatment for his fractured hip.

Discussion

These cases demonstrate the variations in the natural course of multiple myeloma. Because Case 2 may represent a solitary myeloma cell tumor, prolonged observation will be necessary to determine with certainty the presence or absence of multiple myeloma. The solitary type of tumor may, however, produce disastrous results if a vital area is involved. Cases 1 and 3 illustrate typical examples of multiple myeloma that generally progress without remissions to a fatal outcome. The presence of Bence-Jones proteinuria and a heavy albuminuria usually suggests a rapidly progressive disease.

In our patients we have started treatment with 3 gm. of urethane daily and have continued with this amount until maximum subjective improvement appeared to be obtained. The amount of the drug was then reduced to 1 gm. daily. However, in the first case the symptoms recurred on 1 gm. daily, and the dosage was increased to 2 gm. On this larger amount a feeling of well-being and relief returned. It has been our practice to continue the drug for many months. This has been done because of the observations of Haddow and Sexton¹ that the suppressive activity of urethane continues only as long as it is given. None of our patients has been observed for more than five months. During this interval one patient received 388 gm. of urethane. The other patients have been observed for shorter periods and have consequently received smaller amounts of the drug. Decrease of skeletal pain and increase of well-being are usually noted two or three weeks after the start of therapy. The patients move with less discomfort and are voluntarily more active than prior to therapy.

The patients, while taking urethane, have complained of some anorexia and nausea. These complaints, however, were never of such severity as to necessitate discontinuance of therapy, nor have they persisted throughout treatment. The patients have not lost weight while on treatment.

A depression in the white cell count is noted after 10 to 14 days of therapy. Concomitant with this is an increased susceptibility to respiratory infection. We nonetheless continued the use of urethane after brief interruptions during the height of the infections. As infections developed, they were treated with penicillin or sulfadiazine. There may also be a tendency in some patients for the hemoglobin to fall, as illustrated by Case 3. It is now our practice to maintain the hemoglobin above 10 gm. by repeated transfusions. Furthermore, the feeling of increased well-being may lead to activities which endanger the weakened bones. This hazard is illustrated by Case 4, who broke his femur from a fall during a scuffle. It is advisable to observe the patients frequently and not allow them to become too far separated from medical attention.

We have given the drug in an aqueous solution, using fruit juices as a vehicle to disguise the unpleasant taste.

Conclusions

1. Urethane was used in the treatment of 4 patients with multiple myeloma, and an encouraging palliative effect was noted. The palliation consisted of a feeling of increased well-being, a decreased amount of skeletal pain and an increased amount of activity.
2. The toxic manifestations of urethane noted were anorexia, nausea and leukopenia. However, these findings did not necessitate discontinuance of therapy.
3. No improvements in the anemia, albuminuria, Bence-Jones proteinuria, hyperglobulinemia and skeletal lesions have been observed.
4. A definitive evaluation of urethane in the treatment of multiple myeloma must await more prolonged and extensive observations.

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CONTACT DERMATITIS DUE TO NYLON HAIR NET

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Contact dermatitis due to nylon is a well known and usually easily recognized syndrome. It has been discussed on numerous occasions in various papers. In an article written by Dobkevitch and Baer¹ 13 patients with dermatitis of the feet, legs, and/or thighs were presented in whom positive patch tests verified the specific sensitivity to nylon. In this article the authors demonstrated the coexistence of hypersensitivity of patients to the azodyes and paraphenylenediamine. The former, namely, the azodye, is used in the manufacture of nylon stockings, while the latter is commonly used as a dye not only in nylon but also in leather and cosmetic hair dyes.

More recently with the invasion of nylon into the field of wearing apparel other than stockings one might have anticipated the appearance of nylon dermatitis in areas other than the feet and legs.

C. Russell Anderson² recently published his experience with a number of cases of dermatitis due to the use of nylon hair nets. In this article the author stated that he had seen a number of patients in whom a dermatitis involving principally the ears, face, neck and arms appeared concurrent with the use of nylon hair nets.

The purpose of this article is to contribute further to the knowledge of this disease.

Mrs. J. P., a white female, aged 46, complained of an eruption of four weeks' duration which had first appeared in the postauricular regions and soon had extended to involve portions of the face, neck, shoulders, upper arms and extensor aspects of the forearms. The patient stated that on two occasions during the four week period she had succeeded in almost clearing the disease entirely, only to note a recurrence more severe and more extensive than any which she had previously suffered.

Examination of the eruption revealed an acute exudative edematous dermatitis involving the ears most severely. The ears were swelled to approximately twice their usual thickness, the dermatitis fading at a distance of approximately three inches from the ears. Distributed on the sides of the face, about the neck, the shoulders, upper arms and extensor aspects of the forearms was a poorly demarcated, brightly erythematous, papular eruption. The remainder of the body was entirely clear.

At first glance the eruption was strikingly reminiscent of the dermatitis seen in individuals sensitive to hair dyes applied to the scalp. Ques-

tioning on this score, however, revealed that the patient used no cosmetics of any sort on her scalp.

The patient stated she had purchased a nylon hair net two days before the onset of the eruption. She further stated that she had noted that the eruption was much more severe when she applied the nylon hair net immediately following washing of her hair.

Patch tests were applied to the patient's back using the central portion of the nylon hair net as well as the hemmed margin of the net. Forty-eight hours later strongly positive patch tests were exhibited beneath both nylon patch tests, whereas the controls were negative. Patch tests to the patient's nylon stocking as well as to paraphenylenediamine dye were likewise negative. The eruption cleared promptly following the elimination of the nylon hair net.

Comment: This case is of unusual interest because of the fact that the patient was sensitive only to the nylon in her hair net but not to the nylon in her stockings.

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Summary of Clinical Record

A 41 year old man was admitted to the hospital complaining of intermittent coldness, pain and whiteness or blueness of the fingers upon exposure to cold for over a period of 15 years. There had been stiffness of the hands, ulcerations of the finger tips and generalized hyperpigmentation for five years. Both hands were involved, and there had been 16 separate ulcerations of the finger tips and 2 involving the skin over the distal interphalangeal joints. For 8 or 10 years the smoking of a cigarette occasionally had induced coldness, pain and color changes. Until the past year he had smoked about 20 cigarettes and consumed a pint of whiskey daily; since then little tobacco or alcohol had been used. The lesions interfered with his occupation as a farmer and as a grinder for an engineering firm; during the past two years he had been able to work as a bartender. The patient had lost 20 pounds in weight in the last 18 months but without anorexia. His past

medical history was essentially negative except for an attack of scarlet fever 16 years ago, without apparent sequelae.

The skin was generally, but rather unevenly, hyperpigmented. The color was a dirty brown, most marked on the hands, forearms, arms and trunk. There was some scaling, especially on the hands and face, and less on the arms and chest; the skin was tight and inelastic with apparent loss of subcutaneous tissue. The facies were masklike and expressionless, and he was unable to smile or show his teeth. The mucous membranes were normal. The lung fields were clear, and the left border of cardiac dullness was at the midclavicular line. The heart rate was 72 beats per minute and the rhythm regular. No murmurs were heard. The blood pressure was 128/80 in the right arm, and 142/84 on the left. A hydrocele was found

millions per cu. mm.; and the leukocyte count, 6,600. X-Ray films of the teeth were reported to show multiple dental caries, apical abscesses and retained root fragments. X-Ray films of the hands showed bony atrophy. A biopsy of the skin of the left forearm was performed.

Topical application of lanolin and oral medication with benadryl produced no apparent improvement. On the seventeenth day after admission preganglionic sympathectomy was performed on the right stellate and second and third dorsal ganglia. Skeletal muscle and connective tissue were removed during the operation for pathologic examination. The postoperative course was uneventful except for drug fever and a macular skin eruption, probably produced by Methadon. Four weeks later the right hand and face seemed better, both subjectively and objectively, and a preganglionic sympathectomy was done on the left second and third dorsal ganglia. Two weeks later the patient received one and one-half hours of inductothermy therapy to 103.6 F. on two consecutive days and was then discharged in the care of his family physician, to return in two months.

The patient returned to the hospital 37 months after the first admission. He stated that he had been quite comfortable for over two years so long as he did no work and avoided temperature changes. However, one year before readmission he began to notice swelling of his left hand associated with continuous burning pain, and in the last six weeks general weakness had forced him to bed and he complained of "acid stomach" and belching, relieved by antacids. There was occasional blurring of the medial portion of the visual field of the right eye. During the last month he had had considerable relief from his hand symptoms under priscol therapy.

The physical examination revealed the skin changes previously noted and gangrene of the left middle finger. In addition, cotton wool patches and arteriovenous nicking were visible in both fundi. The Rinne test was localized to the left. The heart was enlarged to the left, and the blood pressure was 220/120. No murmurs were heard. The abdomen was nontender and contained no palpable masses. There was complete limitation of motion in the interphalangeal joints except for 20 degrees of motion in the right fourth finger and moderate adduction of the right thumb. The reflexes were physiologic. Hemoglobin measured 10 gm. per 100 mg.; the erythrocyte count was 2.6 millions per cu. mm. and the leukocyte count, 6,200. There was a mild albuminuria. Serum proteins were 6.51 gm. per 100 mg. with an A/G ratio of 4.04/2.24. Blood urea nitrogen was 24 mg. per 100 ml. and creatinine, 1.8.



Fig. 1. Heart. Note thickening of chordae tendinae.

in the left spermatic cord. Motion in the fingers of the right hand was limited by 50 per cent and in the left by 35 per cent. The tips of the right index and middle fingers were ulcerated, and the tips of the other fingers were scarred. The skin on the lower third of each leg was brown and scaling. The existence of abnormalities of skin temperature, color and arterial pulsations in the feet were completely at variance in the records made by the three examining physicians. The neurologic examination was normal throughout.

The urinalysis was normal. The hemoglobin was 12 gm. per 100 ml.; the erythrocyte count, 4.4

Three days after admission the patient vomited coffee ground material and the next day complained of extreme weakness; he again vomited a small amount of brownish liquid which was strongly positive to Meyer's test. There was no abdominal tenderness. Fluids were started intravenously, but the patient died at 1710 hours on his fourth hospital day.

Dr. Robert G. Carney (Dermatology): This is a case of a middle-aged man who for 15 years had changes simulating Raynaud's disease, followed during the five years before admission by a progressive sclerosis of the skin with ulcerations and hyperpigmentation. The physical examination confirmed the historical findings. He was given conservative treatment without any improvement; there was temporary improvement following sympathectomy, and he was discharged considerably better. At the time he returned to the hospital three years later he had had more ulcerations of the fingers; he had pain in the stomach which was relieved by food and soda; and he had just recently become very weak and chronically ill. He began vomiting bloody material and died three days after admission.

Dr. William B. Bean (Internal Medicine): This case cannot be considered a diagnostic problem since the diagnosis is obvious to anyone reading the protocol, a disease given many names, *scleroderma* being the commonest. Perhaps it might be better called *diffuse progressive systemic sclerosis* which Dr. Goetz of South Africa, who has done extensive studies on this disease, has named it. We have to decide how many of the lesions associated with this condition this particular person had. It is of interest to recall that Raynaud, who described what we know as Raynaud's disease or phenomenon in 1862 as an undergraduate student at the University of Paris in his graduation thesis, recognized the close association between the peripheral vasospastic manifestation with local asphyxia and finally gangrene and destruction of tissue and subsequent development of sclerosis or scleroderma in the skin. So it is not surprising to find that for a period of 15 years this patient had what was thought to be Raynaud's manifestation, phenomenon, disease or syndrome or whatever you want to call it. Then it developed in almost all of its manifestations the picture of scleroderma. Scleroderma exemplifies diseases which have been bandied about among various medical specialists, and for a long time it was considered exclusively in the domain of the dermatologists. More recently the internist and the pathologist have become interested in it.

In spite of much study the nature of the disease is totally unknown; the cause also is un-

known, but the course is fairly well recognized, although it has variations which can't be predicted and haven't been explained. To begin with, the manifestation which the patient had, hyperpigmentation, is rather characteristic though not invariable. It is nonspecific, scattered and doesn't follow any particular pattern. It may resemble the picture seen in Addison's disease or it may be associated with areas of depigmentation. People may have advanced scleroderma without hyperpigmentation. The mask-like rigidity and fixation of the skin with loss of subcutaneous tissue, the incapacity to open the mouth, to smile, the expression of the features are all highly characteristic. On his first admission motion and motility of his fingers was characteristically, definitely and considerably limited. It is not caused by arthritis but by fixation of the tissue which contracts, constricts and forms such a hard parchment sheet that motion is difficult. In addition there is usually fibrosis, atrophy, necrosis of the muscle and weakness. Characteristic of the disorder in its advanced stages is the loss of tissue in the fingers with ulceration and later gangrene. That is associated undoubtedly with the earlier vascular disorder of the disease, with intermittent vasospasm and finally with occlusive organic disease of the small vessels. As a comment on the last part of the third paragraph about the different opinions put forth by three different observers, I think this indicates not that one person was right and two were wrong but that there was some variation in the peripheral vascular manifestation such as temperature and color of the skin, and that there was still a degree of lability in the vascular structures, and that the disease hadn't reached its final and organic form. The x-ray of the hand showed bony atrophy which is simply the atrophy of disuse and not a primary lesion in the bone itself. Perhaps the disturbance in his left hand was related to erythromelalgia or acrocyanosis of the painful type.

In reviewing the final episode it would appear that the lesion in his brain was most probably on a vascular basis in association with hypertension, since as a rule this disease is one which affects connective tissue and spares the brain. I believe that the one striking complication of hypertension resulted from the same sclerosing processes in his kidney and that he had, in essence, a Goldblatt mechanism and hypertension secondary to renal disease. He had a depression of his bone marrow function, at least as far as hemoglobin and red cells were concerned, since we have no story of hemorrhage until the end. In so far as the description is given, he doesn't seem to have had heart failure. He did have albuminuria, and then he had a series of episodes associated with lesions

which we can suspect as being present in the upper and perhaps the middle portions of the alimentary canal. When scleroderma was considered a dermatologic curiosity, attention was not focused on the multiplex internal derangements which are associated with this disease. Recently there has been great interest in the esophagus, and the lesion ordinarily affects and involves the

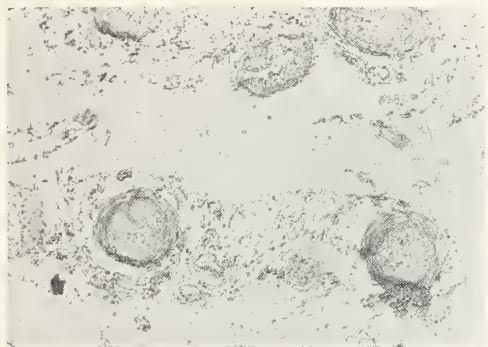


Fig. 2. Arterioles from mesocolon. Note thickening of intima.

lower esophagus. It consists of atresia, attenuation and the muscle substance being replaced by fibrosis and a sort of collagenic and sometimes fibrinoid or epithelioid degeneration. Studies by Rake in 1931 indicate a primary disturbance of the myenteric plexus in the esophagus and perhaps throughout the alimentary canal. Usually the x-ray with barium in the esophagus doesn't reveal the tremendous tortuous distended esophagus seen in ordinary achalasia. Similar lesions have been reported in the duodenum and colon which are rather nondescript, spotty and patchy, with areas where the bowel was normal and areas with thickening, loss of muscle substance and sometimes stenosis. The heart may be affected with a diffuse fibrosis which is unrelated to small vessels and therefore seems to be independent of primary vascular disease. Under such circumstances one may have congestive failure of any kind.

This man was able to withstand hypertension without going into congestive failure, and thus we have little evidence that this peculiar lesion affected his heart. Lesions of all types in the kidney have been described from a hyalinization of the glomeruli to various tubular changes, interstitial fibrosis and these specific types of fibrinoid and amorphous hyalinizing degeneration. His final episode, the vomiting of blood, may be related to actual rupture of his esophagus, although we do not have to invoke this mechanism. In conclusion, this man had scleroderma, and I believe that we can explain all of his lesions on that basis.

Dr. Stephen A. Forbes (Radiology): Our examination was limited to studies of the hands.

These films were taken on the last admission of the patient. You can see particularly well the tapering of the distal phalanges and soft tissue atrophy of the fingers and the flexion contractures of the fingers. Because of flexion the interphalangeal joints are poorly visualized except in the thumbs. In each thumb you can see that the interphalangeal joint surfaces are really intact and the joint spaces of normal width, so that this patient does not have a rheumatoid or atrophic arthritis. The bones of the hands show a generalized atrophy due to disuse.

This completes our part of the work-up on this patient. However, it is possible to demonstrate changes in the esophagus based on the findings that Dr. Bean has discussed. Changes in the x-ray appearance of the small intestine have also been reported. Drs. Schatzki and Hale at the Massachusetts General Hospital reviewed 22 cases in 1944, reporting considerable dilatation of loops of small intestine. One of these patients came to surgery because of symptoms suggesting intestinal obstruction, and at operation about 2½ feet of dilated jejunum were found and resected. The submucosal portion of the resected intestine showed definite widening and thickening.

Dr. Carney: This man with his scleroderma brings up several other possibly related diseases that should be mentioned here. Scleroderma itself is somewhat confused because we have in the dermatologic field a condition known as morphea or localized scleroderma and various subgroups under that which pathologically show similar changes; these are purely cutaneous lesions without any systemic changes whatsoever. Diffuse scleroderma has further been subdivided by some into the true diffuse scleroderma and into another subdivision known as acrosclerosis.

The differential, briefly, is this: Diffuse scleroderma is usually a centrifugal disease, although it may begin on the hands and face. It does give rise to progressive sclerosis of the skin and subcutaneous tissues as well as the internal organs, as Dr. Bean mentioned. There may be sclerodactylia, that is, sclerosis of the fingers with Raynaud-like changes, but the disease is not heralded by these changes. Those who believe that there is a difference in these two forms of scleroderma believe that diffuse scleroderma has a serious prognosis for life, that at least 50 per cent of them will be dead in five years, usually of some intercurrent disease, chiefly pneumonia. Acrosclerosis is characterized by a variable prodrome of Raynaud's symptoms with a centripetal spread of the disease, starting on the hands and the face and spreading centrally, and also characterized by poor prognosis for recovery but a good prognosis

for life. This differentiation is still questioned by some dermatologists, but at the Mayo Clinic where they see more of this disease than at any other place in the world they support this differentiation strongly. At the time we saw this patient we felt that he had the acrosclerosis type of scleroderma.

There are, as I said, several other diseases which should be mentioned because, particularly from a pathologic standpoint, there may be relationships. First, dermatomyositis: From a dermatologic standpoint dermatomyositis and scleroderma are definitely separable. That is not to say that there are not cases which clinically are in between and which are confusing, just as we see cases of psoriasis and cases of seborrhea which tend to meet in the center where the differential is difficult. Yet I don't think anyone would claim that they are the same disease, for they are so distinctly different in appearance, pathologic findings and so on. Dermatomyositis again involves both skin and muscle; the skin lesions are inconstant and may vary from urticarial lesions and erythema to an erythema multiforme type of eruption. The disease is one which tends to be inflammatory and the muscular changes are on an acute inflammatory basis, whereas in scleroderma the changes are those of fibrosis with relatively little inflammation, except in some cases perivascularly. Dermatomyositis also is, generally speaking, an acute or subacute disease. Its onset is fairly rapid; it tends to go into remissions or to clear completely, whereas the sclerodermas start

ess, scarlet fever for instance, and is characterized by a temporary and peculiar solid edema of the skin and subcutaneous tissues; this disease tends to clear without sequelae.

Lupus erythematosus of the disseminated type has also been grouped in this category of "diffuse collagen disease," and again we find from a dermatologic standpoint the diseases are widely separated. Lupus erythematosus has definite skin lesions. They are generally typical, and pathologically these skin lesions can be identified without knowledge of the clinical facts. Lupus erythematosus is a febrile disease with an acute onset ordinarily. It is characterized by various internal manifestations, lymphadenopathy, splenomegaly, either bacterial or nonbacterial verrucose endocarditis, renal lesions with the typical wire loop lesions and albuminuria as a result. There is no true sclerosis of the skin, no change similar to that seen in scleroderma, and the prognosis in lupus erythematosus of the so-called acute variety is a 100 per cent mortality over a period of one and a half to two years. The mortality rate in the subacute form is at least 50 per cent within three years. In lupus erythematosus the pathologic changes in the skin are characterized by the relative lack of inflammation, a minimal perivascular infiltration and liquifaction change in the basal cell layer; otherwise there is relatively little to be seen. All of these conditions may have joint symptoms, but they usually do not have any arthritis. Pain may be referred from muscles, and the limitations of motion occur from changes in the skin or from soreness in the muscle.

Clinical Diagnosis

Scleroderma.

Necropsy Diagnosis

The body was that of an emaciated man of 44 years. The skin was shiny and devoid of hair. Areas of dry gangrene were present on the first and second fingers of the right hand and first finger of the left hand. The myocardium was hypertrophied, and there was evidence of subendocardial fibrosis which was diffuse in distribution.

The stomach and upper intestinal tract were filled with blood. This had apparently resulted from bleeding in the floor of two peptic ulcers located in the region of the pylorus. There were diverticula in the descending and sigmoid portions of the colon, but none of these were inflamed.

There were numerous changes in the arteries and arterioles throughout the body. The aorta and larger arteries showed atherosclerotic changes which were not unusual, except that they were perhaps more advanced and more extensive than is usually seen in persons of this age. The changes

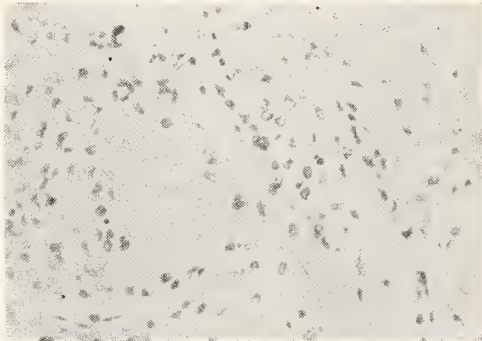


Fig. 3. Glomerulus of kidney. Note necrotizing arteriolitis of afferent arterials.

gradually, are progressive and do not go into prolonged remissions or recover. Pigmentation, which is marked in scleroderma, is absent in dermatomyositis. People with dermatomyositis never get sclerodactylia, whereas it is a frequent finding in scleroderma.

Another condition which is sometimes confused is scleredema adultorum. This is a fairly acute disease which usually follows an infectious proc-

in the arterioles and smaller arteries included all stages from fibrinoid necrosis of the intima and perivascular inflammation to extensive hyperplastic intimal sclerosis. These lesions involved all organs and all tissues examined including pulmonary arterioles. Complications of this arteriolitis were found in the brain in the form of recent infarction involving the left caudal nucleus and the wall of the lateral ventricle and diffuse leptomeningeal fibrosis; in the extremities in the form of gangrene of the fingers; in the skin in the form of diffuse fibrosis of the derma, subcutaneous tissues; and in the kidney in the form of cortical scars and glomerular tuft infarcts. The chronic mucosal ulcers of the stomach could perhaps also be explained on this basis.

This case is best classified among the diffuse collagen-vascular diseases, the changes in skin being extensive enough to justify the diagnosis of scleroderma. Diffuse involvement of the arterial system had produced significant lesions in other sites, however.

Necropsy diagnosis:

Diffuse arteriolar and arterial sclerosis with subsiding arteriolitis.

Generalized atherosclerosis.

Scleroderma.

Infarct of cerebrum (left caudate nucleus).

Meningeal fibrosis.

Chronic peptic ulcer with fatal hemorrhage.

Nephrosclerosis.

Gangrene of fingers.

Hyperplasia of prostate.

Dr. Eugene J. Boyd (Pathology): This is a case of widespread inflammation and sclerosis of the arteries and small arterioles and a rather classic type of atherosclerosis involving the larger arteries. Complications of this arteriolar and small artery disease were found in the kidneys, in the brain, probably in the gut, and there was certainly a type of subendocardial fibrosis which is at least somewhat related to this process in the smaller arteries. As to whether or not changes in the collagen of the derma are on the same or a comparable basis, I'm sure I cannot say. It appears to me that all of these findings are of an injury and repair type, which could certainly be on the basis of ischemia. In the more striking lesions there is a more fulminating type of ischemia perhaps, and in the derma, a more slowly developing process.

Dr. Bean: Were there lesions in the heart muscle?

Dr. Boyd: There was a little fibrosis, but it was consistent with the amount of atherosclerosis he had in his coronary arteries and elsewhere.

Dr. Carney: Dr. Perret, do you feel that sympathectomy is of value in patients with scleroderma?

Dr. George E. Perret (Neurosurgery): I believe that when we see narrowing of the arteries, as was shown by Dr. Boyd, sympathectomy should

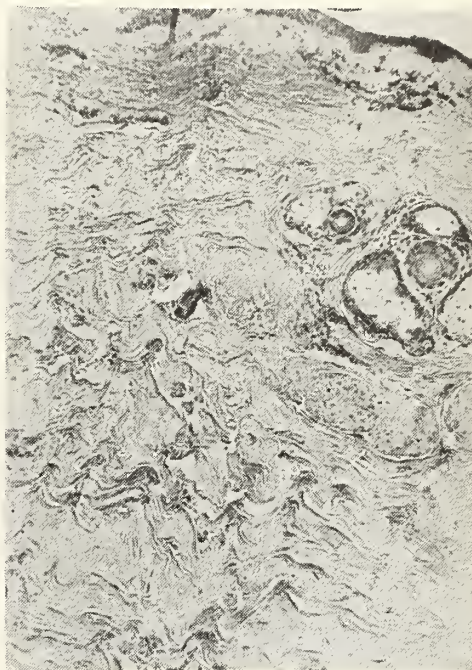


Fig. 4. Skin. Hyalinized collagenous tissue.

be tried. I think it has been done for the upper extremities in this case. I would like to ask Dr. Boyd whether or not he has found some changes in the ganglion cells of the sympathetic chains. I recall that in 1941 a German, Sunder-Plassmann, reported some sympathetic ganglionic changes in cases of endangiitis.

Dr. Boyd: We did not find any. The changes, if there were such, were not to the degree that I could be sure they represented a pathologic change and were not simply due to autolysis. None of the special precautions of the fixation were taken which probably would have demonstrated them had they been there.

Dr. Ruben Nomland (Dermatology): I do not believe, as Dr. Bean inferred, that any dermatologist considers generalized scleroderma to be only a skin disease. As a matter of fact, much of the progress in the knowledge of this disease has been made by dermatologists in association with experts in many fields of internal medicine. The specialists in peripheral vascular disease, roentgenologists, pathologists and others have helped to increase our knowledge of this group of disorders. In the 23 years that I have had an interest

in this condition I have always felt it to be a systemic disease with its chief clinical manifestation in the sclerosis of the subcutaneous tissues, but with involvement of the supporting or interstitial tissues of the entire body.

As Dr. Carney mentioned, and I am going to emphasize, there are two distinct types of generalized scleroderma which are so different that I believe them to be separate disease entities with scleroderma as a common finding. In one type, and this man is probably of that category, the patient is usually a woman who develops Raynaud's syndrome on the hands. After a period of time, usually several years, sclerosis of the skin develops in the peripheral parts, fingers, hands and forearms. Soon involvement of the face and upper chest occurs with development of a typical thin, mask-like facies. There is often marked change in pigmentation over the entire body. The disease may be arrested at almost any stage, but there is usually progression, with more severe acral involvement including ulceration of the digits, a spread to much of the body and development of systemic changes. The most commonly recognized one is an esophageal narrowing or obstruction, which may or may not be of a definitive type. As far as I know the development of diffuse arteriolar involvement, as shown by Dr. Boyd in this present case, does not occur in the Raynaud type of generalized scleroderma. There are few post-mortems on uncomplicated scleroderma of this type, as the patients usually live a long time and die of a related disease.

This man fits fairly well into this class of scleroderma, except that he is a male, and men rarely have this form of scleroderma. However, I believe this patient had two diseases in addition to his scleroderma. Sometime during the three years between admissions he developed a diffuse vascular disease, as shown in the post-mortem, with hypertension of a malignant type and a blood pressure over 200. In addition he had a bleeding peptic ulcer, which may have been the immediate cause of death.

There is a second, more serious form of scleroderma of the diffuse type which may start in many ways but rarely with prolonged Raynaud's syndrome. An example was one of our hospital secretaries who began to have her disease with temporary swelling of her hands and feet. After a period of several months she developed definite scleroderma of her arms and elsewhere and typical Raynaud-like symptoms of her hands. The disease rapidly became generalized, and she died after a period of about two years of an atypical cardiac involvement. There are many other modes of onset, and involvement of the hands

may or may not occur, but the prognosis is serious, as death usually ensues in a high percentage of cases after a period of years.

The usefulness of sympathectomy in the Raynaud type of scleroderma is problematic. Usually, as in this man, there is temporary improvement lasting up to six months or so, but then the effect of sympathectomy is lost and progression occurs, and I do not believe sympathectomy should be done in scleroderma. Other forms of treatment are probably equally fruitless, but removal to a warm, equable climate will usually be of value in relieving the Raynaud symptoms to some extent.

In summary, I believe this man had generalized scleroderma of the type preceded by Raynaud's symptoms for many years, but that he died of two disorders unconnected with the original disease, namely, a generalized vascular disease associated with severe hypertension and a bleeding peptic ulcer.

Dr. Bean: I excluded all present dermatologists from my casual comments. The lesions described, the angitis and arteritis, are quite dissimilar from the characteristic picture in scleroderma as it is referred to in the generalized form of widespread sclerosis. In the heart, for instance, the fibrotic changes are regularly not associated with vessels, and that's the characteristic difference between it and periarteritis or arteriosclerosis with its constant fibrosis. There is no relationship between this peculiar, spotty, scattered fibrosis and blood vessels in the type of scleroderma where scleroderma heart disease occurs. The lesions in the myenteric plexus which have been described in the esophagus and throughout the gut in scleroderma may cause complete atrophy of the ganglion cell with loss of nerve structure, or they may go on to peculiar neuromas, which occasionally develop in the myenteric plexus. Their nature is not clear. Briefly, to sum up the signs, symptoms and lesions, we have the vasomotor disorder with the Raynaud's phenomenon, the small ulcers, final occlusion of peripheral vessel, and the radiologic evidence of atrophy and absorption of bone without primary or obvious organic change in the joints. With reference to the skin there is the scleroderma itself and two factors which didn't come up here but have been noted frequently, telangiectases in the skin and calcinosis.

Calcium may be distributed widely even to the extent of radiopaque lesions in the olecranon fossa. In the gastrointestinal tract dysphagia is common, and peptic ulceration or mechanical ulceration of the esophagus is not rare. The middle third may be dilated; the lower third is the part that has

STATE DEPARTMENT OF HEALTH



IOWA PUBLIC HEALTH ASSOCIATION TENTATIVE PROGRAM

TWENTY-THIRD ANNUAL MEETING

May 3, 1950—Savary Hotel, Des Moines

MEETING THE HEALTH NEEDS IN IOWA

1:30 REGISTRATION

2:00 WELCOME

I. H. Borts, M.D., President
Iowa Public Health Association

INTRODUCTION

A. B. Chambers
Mayor, Des Moines

GREETINGS

Walter L. Bierring, M.D., Commissioner
Iowa State Department of Health

2:30 THE RABIES CONTROL PROGRAM IN IOWA

H. U. Garrett, D.V.M., Chief
Division of Animal Industry
Iowa State Department of Agriculture

3:00 POLLUTION OF OUR SURFACE WATERS

Paul J. Houser, Director
Division of Public Health Engineering
Des Moines

3:30 BUSINESS SESSION

4:00 PROGRESS REPORTS

(1) Heart Program

H. W. Rathe, M.D., President
Iowa Heart Association
Waverly

(2) County Health Departments

C. L. Putnam, M.D., Director
Local Health Services
Iowa State Department of Health

(3) Health Councils

Mrs. Walter Anneberg, Chairman
State Health Council
Carroll

(4) Hospital Construction

Robert Hanlon, Director
Division of Hospital Services

(5) The F.P.M. Serologic Test for Infants and Children

Miss Pearl Spanswick, Principal
Serologist
State Hygienic Laboratory
Iowa City

4:50 DISCUSSION PERIOD

6:30 DINNER and MEETING of the State Organization for Public Health Nursing

Speaker: Gertrude Clouse, State Health Council, Wisconsin

Subject: HEALTH IS EVERYBODY'S BUSINESS

Make reservations with Martha Ronayne, R.N., 105 City Hall, Des Moines (3-5271) by April 24.

The Middle States Public Health Conference follows immediately, May 4 and 5, 1950, at the Savary Hotel, Des Moines. Public Health Workers from 11 states will attend and participate in the conference.

INFLUENZA

After a three year interval with a relatively low number of cases, influenza is increasing in Iowa. With the peak of incidence in the early spring, 1950 appears to be on its way toward establishing the same seasonal trend as 1947. Our scattered and fragmentary reports indicate certain areas of the state are having or have recently had a large number of cases of influenza. Other areas are just being invaded. The same situation prevails generally over the United States, with more cases being reported than at any time since 1946. Texas, Virginia, West Virginia, Oklahoma, Arkansas and Tennessee are reporting the largest number of cases.

The U. S. Special Regional Laboratories of the World Health Organization are reporting various strains of the influenza bacillus as causing the infection in different states. The A-prime virus has been reported from Illinois and Kentucky; A and A-prime from Michigan; FM-1 from Maryland; A, A-prime and B from New York and A from Iowa. The Iowa cases shown to have been caused by the A type virus were among University of Iowa students.

The Special Regional Laboratories as set up under the World Health Organization are responsible for integrating the influenza study program for their respective areas. They enlist the assistance of other laboratories in the area, distribute specific influenza antigens and antisera to their area collaborators and make final identification before influenza virus isolates are transmitted to the strain study center at the Long Island Col-

lege of Medicine, Brooklyn, N. Y. The Collaborating Area Laboratories serve as look-out posts to report outbreaks of influenza; they perform red cell agglutination-inhibition tests with the serum of suspected cases, and in some cases they isolate virus from patients with influenza.

The laboratory serving this region is located in the Medical Laboratories at Iowa City, with Dr. A. P. McKee of the Department of Bacteriology of the University of Iowa College of Medicine in charge. This laboratory serves the states of Iowa, Minnesota, Missouri, North Dakota, South Dakota, Nebraska, Kansas, Wyoming and Colorado.

The collaborating area laboratories are: St. Louis University (Dr. H. Pinkerton and Dr. G. O. Broun), and the state health departments of Minnesota (Dr. P. Kabler), Missouri (Dr. C. F. Adams), Nebraska (Dr. L. O. Vose), North Dakota (Dr. M. E. Koons), and Wyoming (Dr. J. T. Ritter).

COMPLEMENT FIXATION TESTS FOR VIRUS AND RICHETTSIAL INFECTIONS*

While these tests were* included in the Sept. 3, 1949, listing of tests that the State Laboratories are equipped to perform, they are now being described in greater detail, giving the circumstances under which they should be carried out.

A rising change in titre of the specimens is the basis for a positive laboratory report for virus and richettsial infections. A low titre which does not change within a 10 day to 2 week period may be the result of a previous infection, as the antibodies persist for considerable time beyond con-

valescence, even to a period of several years in some instances. Since detection of rising titres must be considered, two blood specimens are always required. These should be taken at a 10 day to 2 week interval. In case the first specimen is negative and the second shows a low positive reading, a third specimen should be submitted about two weeks after the second specimen was taken. This third specimen is frequently necessary because the antibodies may not appear in the blood until the period of convalescence is reached.

Most high titres are considered significant and specific; however, clinical data are needed to verify the laboratory findings. Specimens are mailed just as those for syphilis, with requests plainly stated. In addition to syphilis and gonorrhea the laboratories are prepared to make complement fixation tests for: eastern equine encephalitis, western equine encephalitis, St. Louis strain encephalitis, psittacosis, lymphogranuloma venereum, influenza virus typing, mumps, Q fever, Rickettsialpox, Rocky Mountain spotted fever, murine typhus, epidemic typhus and Colorado tick fever.

The likelihood of Q fever in Iowa should be emphasized because of the extent of the cattle feeding and packing industries in the state. However, no statistics are as yet available since the test has been used only on what are presumed to be routine employment specimens sent in from one packing house. The laboratories are especially interested in blood specimens from packing house workers with cases of "unexplained virus pneumonia," which could be Q fever.

The State Hygienic Laboratory is prepared to cooperate with the World Health Organization's Regional Laboratory, also at Iowa City, on influenza virus studies.

MORBIDITY REPORT

Disease	March '50	March '49	Feb. '50	Most Cases Reported From
Diphtheria	4	3	0	Carroll (1), Clinton (1), Harrison (2)
Scarlet Fever	53	103	57	Dubuque, Ida, Polk
Typhoid Fever	0	1	0	.....
Smallpox	0	0	0	.....
Measles	2,818	158	795	Boone, Johnson, Linn, Pottawattamie
Whooping Cough	49	14	34	Des Moines, Polk, Scott
Brucellosis	17	18	8	Scattered
Chickenpox	324	471	279	Des Moines, Dubuque, O'Brien
Influenza	780	1	1	Benton, Henry, Johnson, Ringgold
Meningitis, Men.	6	2	4	Clinton (2), Keokuk (3), Marion (1)
Mumps	367	718	360	Bremer, Montgomery, Story
Pneumonia	15	7	8	Scattered
Poliomyelitis	5	0	13	Dallas (1), Fayette (1), Henry (2), Sioux (1)
Rabies in Animals.....	20	25	18	Polk (3), Sac (2), Story (3), 1 each in 12 other counties
Tuberculosis	41	66	37	For the State
Gonorrhea	62	75	52	For the State
Syphilis	165	190	143	For the State

*Supplement to Laboratory Release of September 3, 1949. Copies may be obtained by writing to the State Laboratories at Iowa City or to the Division of Preventable Diseases, State Department of Health, Des Moines.

The JOURNAL of the Iowa State Medical Society

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Vol. XL MAY, 1950 No. 5

Survey of Physicians' Incomes

Physicians will be doing the medical profession a service by cooperating with the survey begun late in April by the AMA Bureau of Medical Economic Research and the Office of Business Economics of the U. S. Department of Commerce. There is evidence that the national averages in some surveys have been too high because physicians who do not have bookkeepers or those with a relatively small practice do not reply in sufficient numbers. Accurate data on physicians' incomes are badly needed in order to develop better estimates of how much the American people pay for medical care.

The survey will cover 62½ per cent of the 200,000 physicians whose names are contained in the punch card files of the AMA Bureau of Medical Economic Research. A short form requesting income data for 1949 only will be sent to every other of the 200,000 names. Of the remaining 100,000 names, every fourth will be selected. To these will go 10,000 short forms and 15,000 long forms requesting income data for the years 1945-49. The latter group will be distinguished in that the return franked envelopes will carry a code number. As the questionnaire will be separated from the envelope immediately upon receipt and the identity thus lost, physicians need have no suspicion about it. The purpose of the code number is to allow a follow-up letter to those not replying to the first request. All of the addressing will be done at AMA headquarters.

Assurance is also given that the survey has no relation whatsoever to the operations of the U. S.

Bureau of Internal Revenue. The questionnaire is being made for the very reason that there is no way by which the Department of Commerce could obtain that information from the Bureau of Internal Revenue.

An analysis of the results will be published by the Department of Commerce next fall in its monthly publication *Survey of Current Business*. Its August 1949 and January 1950 issues had published similar analyses of surveys of incomes of dentists and lawyers, respectively, made jointly with the American Dental and Bar Associations.

Aequanimitas

To physicians endeavoring to follow the advice of Sir William Osler to cultivate equanimity, life is becoming more and more difficult. Nineteen-hundred and fifty presents American doctors with an undeniable paradox: doctors either must enter the political arena or see politics enter medicine. The question of compulsory versus voluntary health insurance, embodying the future not only of the medical profession but of all the American people, will be one of the principal issues in the 1950 Congressional elections. Should anyone question this, he has only to refer to paid advertising in Florida newspapers advocating the reelection of Senator Pepper.

No other professional man in America—businessman, butcher, plumber, baker, clergyman, grocer—so far as we know has to date been nominated to share with the doctor the dubious distinction of having his income paid by government and his product or service made "free" to all comers. It is conceivable such suggestions may come later. Certainly in the logic of socialism, a case could be argued for making the work of all these essential people a function of government.

As pointed out in the New York State Journal of Medicine*:

"Public health departments, researchers, and sanitary engineers work far into the night to keep water pollution, communicable disease, and sewage disposal at the lowest possible level, while, on the other hand, military establishments cudgel their brains to figure out practicable means to carry out bacterial warfare, pollute water supplies, and bomb sanitary installations to accomplish the maximum destruction with the minimum of effort.

"Doctors labor at operating tables to patch up a few thousands who have punctured or broken themselves in one way or another, while politicians gather around statistical tables to figure out how to capture millions of votes with security gold bricks, state medicine, and assorted quack remedies of 'grandiose

*Editorial, Confusion. New York State J. Med., 40:970-971 (April 15) 1950.

vagueness.' Some of them fall into the category of an 'indefinable something which is to be done in a way nobody knows how, at a time when nobody knows when, in places nobody knows where, to accomplish just what nobody knows, and at a cost of nobody knows how much.' Bad grammar notwithstanding, it is no worse than the subject deserves.

"Turning to fiscal affairs, the doctor can read almost daily the mention somewhere of the \$253,770,-359,860 (1949) public debt of the United States (about \$1,695.46 per capita), and the fantastic \$5,-500,000,000 yearly interest thereon; 'payments to individuals for direct relief (1948)—not including Social Security, pensions, unemployment insurance, and so on—by Federal, state, and local governments, \$1,-727,000,000.' Add to this the farm subsidies that accumulated (in 1949) 25,000,000-40,000,000 bushels of potatoes that nobody wants at one cent per bushel, the \$3,343,000,000 invested in various farm products by the CCC, 2,000,000,000 eggs said to be warehoused in a Kansas cave, practically no coal being mined, and talk of more billions needed to save the world from communism. And this is a mere part of the fantastic picture!

"One is tempted to question, at odd moments, for whose benefit walls are built about asylums for the alleged mentally ill."

This responsibility is now squarely before all doctors. If they are to be well represented, they must work, and they must start now. Doctors, their families, their friends, all they can influence must be registered. On election day, in primary balloting and in November, it's up to the doctors to help turn out the vote—the vote for their candidates. There is only one way to preserve American freedom, medical freedom, under our democratic process. That way is the voting way, the electioneering way. It's the best way ever devised, but it poses responsibilities.

Cerebral Palsy Fund

During May an appeal is to be made in Iowa for contributions to the cerebral palsy fund sponsored by the United Cerebral Palsy Associations, Inc., of New York. Bob Hope has accepted the position of National Campaign Chairman.

Physicians throughout the state are undoubtedly aware of the pioneer work which has been accomplished by the National Society for Crippled Children and Adults. At the present time the affiliated Iowa Society has in the past year been able to provide service to 554 individuals afflicted with this condition as well as to 700 families where cerebral palsy constitutes a problem.

Many people will undoubtedly wonder why additional funds are being sought at this time. This appeal is made in order that additional facilities for research and highly specialized training for

physicians and therapists interested in this type of work may be made available. At least one-half of the money raised in Iowa will remain in the state to assist in the program already established at the Cerebral Palsy Center in Des Moines, the program in Scott County and Woodbury County, all of which projects could do much more if added funds can be placed at their disposal. Physicians are requested to lend their assistance to this worthy program.

Pregnenolone in Arthritis

Now that pregnenolone has been obtained synthetically, there has been considerable speculation regarding its possible role in the human being as an intermediate substance in the synthesis and metabolism of physiologically important steroids as related to the treatment of arthritis.* Since the cholesterol esters, which are abundant in the resting adrenal cortex, are depleted when the experimental animal is subjected to stress or when the adrenal cortex is stimulated by the adrenocorticotrophic hormone, good evidence exists that cholesterol is utilized in the synthesis of the steroid hormones.

The possibility of some disturbance in steroid hormone metabolism in rheumatoid arthritis has prompted studies of ketosteroid excretion, which is low in most chronic diseases. The excretion of urinary 17-ketosteroids provides an index of adrenocortical activity. Davison and co-workers have confirmed the low excretion rates reported by others in rheumatoid arthritis. The reason for the lowering of the ketosteroid precursors is unknown. Diminished ketosteroid excretion observed does not necessarily indicate loss of adrenocortical reserve.

The ability of pregnenolone to reduce 17-ketosteroid excretion and the possibility of converting it into other steroids which the individual might utilize to advantage prompted the study of its effects in ankylosing spondylarthritis to determine whether pregnenolone would reduce the high rate of ketosteroid excretion which occurs in the disease and what effect the steroid might have on symptoms and the course of the disease.

The pattern of response to pregnenolone in most patients was the same. In spondylarthritis, ketosteroid excretion was reduced in a few days, and in cases in which fixation was due to spasm, not ankylosis, mobility of the spine was increased. Pain and spasm was greatly diminished except in patients with reduced chest expansion, when it was increased. In patients having rheumatoid

*Davison et al.: Effects of Delta 5 Pregnenolone in Rheumatoid Arthritis. *Arch.Int.Med.*, lxxxv:365-388 (March) 1950.

arthritis involving joints of the extremities there was relief of stiffness and pain, improvement in muscle strength, loss of fatigue and a general feeling of well-being within a week and sometimes in three or four days. Frequently, appetite was improved. In those patients with anemia the blood picture improved rapidly. Reduction in joint swelling, particularly in those cases with large joint effusions, came more slowly. Reduction in sedimentation rates did not parallel clinical improvement but came later.

When use of pregnenolone was discontinued after short term administration, symptoms and signs of active arthritis recurred in a few days, which recurrence appears to be good evidence that the steroid is responsible for the observed effects. The results of injection of aqueous suspension of crystalline pregnenolone are much less effective than those of pregnenolone acetate in oil. Experience to date indicates that the effective daily dose is 200 mg. After symptoms have been relieved, reduction in dosage to 100 mg. daily appears sufficient to maintain the benefits; 100 mg. every other day may even be sufficient.

Although the intramuscular injection of pregnenolone appears to bring about remission within a short time, its action in some cases is delayed as long as three or four weeks. Pregnenolone appears to be less rapidly effective than either 17-hydroxy-11-dehydrocorticosterone or the pituitary adrenocorticotrophic hormone (ACTH), but, unlike them, it appears to be free of the toxic effects which result from their administration over long periods of time. Moreover, it can be made readily at low expense, an important factor in long-term administration.

G.P.

The first issue of this magazine, which is to be published monthly by the American Academy of General Practice, has appeared. We hasten to congratulate its publication committee for a very creditable presentation. Interspersed among scientific articles are found helpful hints on methods of treatment, medical economics, animal photography and editorial comments. Numerous well chosen illustrations and cartoons are utilized. Unfortunately the editor, Dr. F. Kenneth Albrecht, succumbed to the effects of injuries sustained in an automobile accident on January 31. His successor has not as yet been appointed. It is only to be hoped that future issues will maintain the high standard of this excellent addition to medical literature, which plans to serve the best interests of the general practitioner.

CLINICOPATHOLOGIC CONFERENCE

(Continued from page 230)

the lesions with resulting stasis, lack of peristalsis and lack of normal movement. Clinically, asthenia is characteristic. There is atrophy and fibrosis of the muscles in the heart besides congestive failure in many cases. Characteristically, as I have mentioned, there is a lack of relationship with this fibrosis to small vessels, and small vessel change may not be found. In the kidney, liver, spleen and lungs the lesions are pleomorphic, nondescript and wholly nonspecific. The hormonal disturbances, loss of weight, pigmentation and loss of axillary hair, and in women menstrual disturbances, all should be thought of.

As a final comment, as Dr. Carney brought out, there are a number of fairly clear-cut entities which in their pure form are quite readily distinguishable by the clinician and by the pathologist. There is, however, an overlapping to a considerable degree, so that one frequently gets a patient in whom the diagnosis between scleroderma and dermatomyositis is difficult. There are other patients in whom periarteritis nodosa may be thought of as important in the picture and still others in whom disseminated lupus with endocarditis must be considered. This is important because of evidence that the course of such disorders may be altered and affected favorably by either the adrenocorticotrophic hormone of the anterior pituitary or by compound E, a steroid hormone of the adrenal. One might think that this syndrome represented an end product of stress and strain with the breakdown in the readjustment of the alarm reaction of Selye. The future promises that many of these conditions can be treated favorably, probably not by either anterior pituitary hormones or compound E but by subsequent measures which we hope to find by thorough study and experimentation along these lines. I suggest that the former feeling of pessimism which we have all had because of the inexorable therapy-resisting course of these diseases may give way to optimism as therapy is expressed and developed.

SPEAKERS BUREAU RADIO SCHEDULE

WSUI—Tuesdays at 11:30 a.m.

WOI—Thursdays at 11:15 a.m.

May 2-4	The Practice of Medicine
	J. S. Jackson, M.D., Mount Pleasant
May 9-11	Arthma
	J. T. Skaggs, M.D., Des Moines
May 16-18	Hay Fever
	R. M. Perkins, M.D., Davenport
May 23-25	How to Enjoy Your Vacation
	Speaker not yet scheduled

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- ATLAS OF HUMAN ANATOMY: Descriptive and Regional—By *M. W. Woerdeman*, M.D., F.R.N.A.Sc., Professor of Anatomy and Embryology and Director, Department of Anatomy, University of Amsterdam. Vol. I.—Osteology, Arthrology, Myology. The Blakiston Co., Philadelphia, 1950. Price \$10.00.
- HANDBOOK OF OBSTETRICS AND DIAGNOSTIC GYNECOLOGY—By *Leo Doyle*, M.S., M.D. Illustrations by *Ralph Sweet*. University Medical Publishers, Palo Alto, California, 1950. Price \$2.00.
- A MANUAL OF CARDIOLOGY—By *Thomas J. Dry*, M.A., M.B., Ch.B., M.S. in Medicine, Associate Professor of Medicine, University of Minnesota (Mayo Foundation); Consultant in Section on Cardiology, Mayo Clinic. Second Edition. W. B. Saunders Co., Philadelphia, 1950. Price \$5.00.
- MEDICAL GYNECOLOGY—By *James C. Janney*, M.D., F.A.C.S., Associate Professor of Gynecology, Boston University School of Medicine; Associate Visiting Gynecologist, Massachusetts Memorial Hospitals. Second Edition. W. B. Saunders Co., Philadelphia, 1950. Price \$6.50.
- PROCEEDINGS OF THE FIRST CLINICAL ACTH CONFERENCE—Editor, *John R. Mote*, M.D., Medical Director, Armour Laboratories. The Blakiston Co., Philadelphia, 1950. Price \$5.50.
- PROGRESS IN CLINICAL ENDOCRINOLOGY—Edited by *Samuel Soskin*, M.D., Director Medical Research Institute, Michael Reese Hospital, Chicago, Illinois; Dean, Michael Reese Hospital Post-Graduate School; Professorial Lecturer in Physiology, University of Chicago. Grune & Stratton, New York, 1950. Price \$10.00.
- SAW-GE-MAH (Medicine Man)—By *Louis J. Gariepy*, M.D., Northland Press, St. Paul, Minnesota, 1950. Price \$3.00.
- UROLOGICAL SURGERY—By *Austin Ingram Dodson*, M.D., F.A.C.S., Richmond, Virginia, Professor of Urology, and Urologist to the Hospital Division, Medical College of Virginia; Urologist to Crippled Children's Hospital, St. Elizabeth's Hospital, St. Luke's Hospital and McGuire Clinic. With contributions by 12 other authors. Second Edition. C. V. Mosby Co., St. Louis, 1950. Price \$13.50.
- 1949 YEAR BOOK OF ORTHOPEDICS AND TRAUMATIC SURGERY—Edited by *Edward L. Compere*, M.D., F.A.C.S., Associate Professor of Surgery, Northwestern University Medical School; Chairman, Departments of Orthopedic Surgery, Wesley Memorial and Children's Memorial Hospitals; Consultant Orthopedic Surgeon, Chicago Memorial Hospital; Consultant in Orthopedics, U. S. Naval Hospital, Great Lakes, Illinois. The Year Book Publishers, Inc., Chicago, 1950. Price \$5.00.

BOOK REVIEWS

Skin Grafting, by *James Barrett Brown*, M.D., and *Frank McDowell*, M.D. (J. B. Lippincott Co., Philadelphia, \$7.50) is unequaled for a graphic description of useful and sound methods of skin grafting. A successor to the first edition entitled *Skin Grafting of Burns*, this excellent book has been revised and amplified by the authors. Many new illustrations have been added. The subject matter is practical in nature and simplicity is the keynote. Complex and questionable technics are not included.—J. M. Bruner, M.D.

A Textbook of Surgery, by American Authors, edited by *Frederick Christopher*, B.S., M.D., F.A.C.S. (W. B. Saunders Company, Philadelphia, \$13.00). One hundred ninety-eight contributors, all of whom with few exceptions are teachers of surgery—each eminent in the special field of surgery which he presents—have collaborated to make possible this leading textbook of surgery. In its fifth edition, the entire book has been carefully brought up to date. Thirty entirely new sections have been added, and nine sections have undergone extensive changes or revisions by new authors. Especially noteworthy among the latter are: Chemotherapy of Surgical Infections, Fractures of the Femur, Operative Treatment of Fractures, Tumors of the Stomach, Anomalies of the Small Intestine and Bile Ducts and Management of the Surgical Diabetic Patient.

Truly a textbook, it contains those sound fundamentals so necessary for the student but further is a concise source book for those clinicians desiring the latest pertinent thought on any subject of general or special surgery.—H. H. Smead, M.D.

The 1949 Year Book of Obstetrics and Gynecology, edited by *J. P. Greenhill*, B.S., M.D., F.A.C.S. (The Year Book Publishers, Inc., Chicago, \$4.50), once again brings to the busy practitioner a concise résumé of the current periodic literature pertaining to that field, presenting lucidly a review of the physiology of pregnancy, labor and puerperium. There is a section dealing with the complications of pregnancy and labor as met with by contributors from various parts of the world. Of special interest are the articles pertaining to the anemias of pregnancy—the standards for diagnosis and an evaluation of various modes of therapy.

The subject of anesthesia during labor is brought up to date with contributions describing the measurement of pain intensity in childbirth and a series of reports of the use of all known types of anesthetics for labor, including spinal anesthesia, continuous caudal, perineal block and even several articles on the application of "natural" childbirth.

The toxemias of pregnancy are well discussed along with some of the more recent theories on etiology, prophylaxis and treatment. Also, there is a thorough section dealing with the problems of infertility which presents the newer diagnostic methods and the recommended procedures for dealing with the various factors making for infertility. Recent technics developed in the field of gynecologic surgery are included with pertinent illustrations.

This compilation of the significant contributions of periodic literature in the field of obstetrics and gynecology should prove useful to any physician caring for women patients.—M. L. Lyons, M.D.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. ROGER M. MINKEL, Fort Dodge

President-elect—MRS. CLAIRE H. MITCHELL, Indianola

Secretary—MRS. IVAN K. SAYRE, St. Charles

Treasurer—MRS. WILLIAM B. CHASE, JR., Des Moines

Corresponding Secretary—MRS. CHARLES H. COUGHLAN, Fort Dodge

NATIONAL EDUCATION CAMPAIGN CONFERENCE EXCERPTS

"The fight against Compulsory Health Insurance is the most cohesive force the Auxiliary has ever encountered. It is relieving the apathy of members who had formerly lost interest."

Mrs. Paul C. Craig,
National Public Relations Chairman,
Woman's Auxiliary to the AMA.

"I think it will be significant to you to know that in the endorsement drive some of the best work has been done by the states where the closest liaison exists between the Auxiliary and the medical society. As a matter of fact, the states turning in the best total in the campaign are those in which the Auxiliaries have worked closely on the four activities on which the National Committee asked them a year ago to be active—literature distribution, women's page publicity, endorsements and speaking.

"But, if this is the year when the AMA and medicine generally will experience bitter denunciation from all those who would destroy American medicine as we know it, then this is certainly the year for all of us whose convictions are in this fight to build in every way we honestly can the constructive picture of the profession and of the Association and all their good works.

"Seriously, your Committee feels that unless the whole matter of Government medicine is brought into the open this year—publicly repudiated this year—this issue can drag on and sap the finances and the energies of medicine and its friends for years to come."

Leone Baxter,
General Manager, National Education Campaign

"Instead of being confronted with the task of defeating a revolutionary program of Government medicine, embodied in a single proposal or in companion bills, we are now faced with a series of measures, disarming in language but dangerous in their provisions, some of which must be beaten and some drastically changed or amended.

"No one of the 'fringe bills' by itself would usher in a complete system of socialized medicine, but each of the bills is designed to achieve part of that objective.

"It is critically important that American doctors do everything in their power this year to stop the march of socialism in this country, and to stop it at the polls by aiding in the election of Congressmen

who will refuse to compromise on American principles.

"Legally, however, it is imperative that doctors who engage in active support of candidates do so as individual citizens and not under the auspices of their medical societies.

"There shouldn't be a doctor in this country who doesn't register and vote this year, and there should not be any member of a doctor's family who fails in these basic responsibilities. . . . That message needs to be hammered home with every means at our command, and there are no legal restrictions on that type of activity. That's just one of the fundamental requirements of good citizenship.

"We can depend on the people, I am confident, to discount heavily the political promises which emanate from Washington; we can depend on them, too, to make allowances for inadequacies of the voluntary systems if they are convinced that we are doing our utmost to overcome imperfections of the present system."

Clem Whitaker,
Director, National Education Campaign

According to recent estimates of the Federal Security Agency, the operation cost of national health insurance would be seven billion dollars annually. Estimates of just a year ago were four to four and one-half billion.

Contrary to common belief, the percentage of doctors to population is increasing each year. Dr. Louis H. Bauer, chairman of the Board of Trustees of the AMA, quoted statistics to prove it at a meeting of the coordination committee on Capitol Hill this month.

There was a gain of 1,420 new resolutions in favor of voluntary health insurance between January 31 and March 15, which makes a total of 4,181 national, state and local organizations in opposition to compulsory health insurance. Medical and allied groups constitute 1,033 of these organizations and women's groups, 1,768.

"Public Health Service is experimenting with 'Tele-quiz,' a gadget that puts the slot machine technique to work in health education. Eventually PHS hopes to employ it in mass health education campaigns in such things as cancer, diabetes, heart disease, tuberculosis and venereal disease.

"The machine operates this way: It sets up in

front of the user a question and four possible answers. (One question now in use is 'What medicine is used for diabetes? a. Penicillin. b. Sulpha. c. Insulin. d. Hormones.) The user makes a choice by punching one of the four keys. Then the machine displays the correct answer. When the series of questions and answers is completed, the machine flashes the score, from 'poor' to 'excellent.' That's the index of how much the user knows about that particular disease.

"While the object is the rapid, wholesale dissemination of health information, PHS staff people have discovered a secondary use. Slugs are necessary to put the machine in operation. PHS proposes to put premiums on these slugs; for example, to pass them out only to persons who take sugar tests for diabetes, submit to chest x-rays, etc. The two machines PHS now has in operation are set up with 25 questions on diabetes, but each machine could be adjusted to handle a total of 8,000 questions and answers on any subject.

"The new gadget will get its first public testing at the Ashbury Park, N. J., 'Cavalcade of Progress,' April 16-23."

From *Capitol Clinic* No. 11

The British are probably the most heavily taxed people in history. Forty per cent of their national income is absorbed by taxes.

Mrs. K. M. Chapler

CURRENT LEGISLATION AND THE AMA

S. 1411—CHILD HEALTH BILL (AMA opposed to item 3)

1. School health examinations.
2. Medical care for children whose parents cannot afford it.

3. Free medical care for all children regardless of parents' financial status.

S. 522 and H.R. 6981—PUBLIC HEALTH UNITS (AMA favors)

Extension of local aid to public health units. (This bill is more likely to be passed than any other.)
H.R. 6000—SOCIAL SECURITY (AMA opposes certain sections)

Total disability benefits are opposed by the AMA in the belief that such aid should be administered at the local level.

S. 2940—HUNT BILL (AMA favors one item)

Provides for creation of federal department of health which would consolidate all medical activities of government. Bill duplicates services already provided by existing laws. It is not worked out sufficiently in detail, but bears watching.

The AMA favors the basic premise.

H.R. 6092—APPROPRIATIONS (AMA opposed)

Support of loans to cooperatives and nonprofit associations. Certain specifications would lead to socialization.

H.R. 6727 with Amendment H.R. 6819—TAX DEDUCTIONS (AMA approves it if bill is clarified)

Deduction of premium for insurance from income tax. Needs clarification as to whether benefits re-

ceived would be taxable or not. If not, AMA approves.

H.R. 6766—COMPULSORY HEALTH INSURANCE (AMA opposed)

Congresswoman Bosone's bill is similar to others in the same category with the exception that an individual would pay his own medical expenses up to \$50. The government would pay those over \$50.

S. 1453—FEDERAL AID TO MEDICAL EDUCATION (AMA opposed)

As the bill stands there is the possibility of federal control of medical education.

KEEP YOUR HEAD AND SAVE YOUR MIND

By C. C. Burlingame, M.D.

Reprinted from the *Woman's Auxiliary to the Missouri State Medical Association*, Vol. XIV, No. 2.

We seem to be afflicted with a case of mass psychiatric jitters. The country has just recovered from the equivalent of an acute psychiatric panic about the psychiatric devastation of military service, which was quelled by the vast majority of servicemen returning safe and in sound mind. Now, in peacetime, the popular interest in psychiatry seems to have been diverted to a chronic nationwide introspection, which apparently is being sustained and intensified by psychological novels, psychological movies, psychological homilies—everything but psychological cordials after dinner.

There is so much talk about the psychological pitfalls in ordinary everyday living that one cannot help wondering how man has continued to emerge intact and in his right mind. In fact, there is so much talk about the far reaching influences of such things as hidden fears and the id that some people are beginning to doubt that they ARE in their right minds!

Everyone from the man on the street to the college student entertains a "psychiatric viewpoint" regarding his own problems and those of his friends. And they all participate fluently in parlor performances about the superego, frustrations, the libido and the like, all of which may be most erudite and entertaining but is not particularly profitable nor particularly practical in leading to better mental health.

Such scholarly considerations have small place in the humdrum business of life; after all, the things most practical in daily living are simple and direct.

For example, there is the matter of our teeth and dental health. The toothless oldster of a few generations ago was neither attractive nor contented, but happily, dental prophylaxis has made tremendous progress. Was that progress made by engaging in complicated lingo about "the viability of the pulp and the venepenetration through the dental enamel junction and the advantages under such circumstances of practicing expension for prevention"? Of course not.

Our teeth are in better condition today because dentists repeatedly exhorted, "Brush your teeth three times a day," "Visit your dentist regularly," and so on—simple, everyday language that even you and I,

who are not dentists, can understand and profit by without having to study dentistry or perform intellectual gymnastics.

Why not apply that lesson in your efforts toward better mental health? There is no reason for not using the simple, direct approach, but, I might add, there are a great many arguments against their antithesis. I have said that engaging in erudite, complicated lingo is not particularly profitable. It is not only unprofitable, but it can also be highly dangerous.

We have found in medicine that by focusing a patient's attention on his illness, we actually aggravate his condition, but by directing his attention toward the affirmative possibilities in his particular situation, we can speed his recovery. On the basis of that experience, we might conclude that the widespread morbid curiosity in psychiatric deviations, which is focusing attention on disease and the negative aspect of life, will exert a negative influence on our national mental health.

As a matter of fact, that conclusion is borne out on every side by individuals satiated with rampart psychological jargon and theories who are giving psychiatric interpretation to every trivial thought and feeling and seeing psychiatric disorders in perfectly normal emotional swings.

I beg of you not to be swept away by the emphasis that is being placed on the psychiatric implications of life. The field of psychiatry as it is contains the largest public health problem in the country! Let's not burden it further by creating additional real or imaginary ills.

For the moment, let's forsake the popular pastime of wrestling with complicated psychological processes that are even yet theoretical and get back to earth. I would like to present you with a little "homespun psychiatry."

Several years ago I set down "Twelve Rules of Mental Health," which I have since increased to fifteen, and which are practically self-explanatory by virtue of their simplicity and fundamental nature. You can understand any one or all of them without resorting once to a medical dictionary, and that, in these days of pretentious psychological pedantry, is practically unique.

(1) **POISE**—Avoid becoming too intense—be master of yourself and the situation at all times.

(2) **DISCUSSIONS**—Keep all discussions from becoming arguments. Otherwise, they will be unprofitable, and you will lose your case as well as your friend.

(3) **DECISIONS**—Make decisions which are practical and decisive. Avoid fuzzy thinking.

(4) **ACTION**—When you have made a clear-cut decision, ACT. Waste no time procrastinating and waiting for a more opportune time.

(5) **CONCENTRATION**—Concentration and distractibility are incompatible. Finish one thing, and then take up the next.

(6) **EFFICIENCY**—Do a thing quickly and do it well. One of the most common forms of inefficiency

is using more emotional and other energy than is necessary to do the job.

(7) **WORRY**—Worry and "solving the problem constructively" cannot occupy the same brain at the same time. Keep your thoughts efficient, and worry and fear will disappear or take their proper place.

(8) **HURRY**—Avoid the feeling of hurry, which only slows up constructive action. Without the feeling of hurry you will act more quickly.

(9) **WORK, REST, EXERCISE and RECREATION**—Do some of each every day. Just as it is not wise to concentrate your eating for the week onto Saturday and Sunday it is not wise to concentrate your rest, exercise and recreation onto your week-ends.

(10) **MORAL ISSUES**—Everyone should have ethical standards. Do not allow yours to interfere with the rights of others. Balance them with an appreciation of human frailties and imperfections.

(11) **OBJECT IN LIFE**—Remember, you are not unique if you are an idealist. Everyone is. Your job is to live a purposeful life in the broad direction of your ideals.

(12) **EMOTIONS**—Your emotions are your feelings and, as such, are a driving force which may lead to great accomplishments. You cannot promise your feelings, but you can promise your behavior. You feel what you feel, and you should know your feelings and never lie to your own self about them.

(13) **BE YOUR AGE**—Enjoy to the fullest extent each of the Seven Ages of Man, including the last. You will be more attractive and happier if you do.

(14) **SELF-CONSCIOUSNESS**—Self-consciousness is a form of egotism. A self-conscious person assumes that every trivial act and word is more important than it really is to other people.

(15) **DEATH AND DISEASE**—You might as well be dead or sick as practice at it for ten years! Don't hasten it by watching for it.

There they are. It seems to me that on the basis of these or similar simple, hard facts, directed toward the affirmative aspects of life, we can get down to the business of living and depart from so much talk about the psychological dangers inherent in the big, bad world.

After all is said and done, the human mind has met and withstood many ordeals during the course of centuries, proving itself to be an amazingly resilient thing which is capable of carrying us through a great deal of sin and suffering without collapse.

But, like our teeth or our eyes or any other organ, the mind can stand only a certain amount of ill treatment, and it will be small wonder if we all succumb into an anxiety neurosis in the face of continual psychiatric warnings and admonitions.

And so, most humbly, I leave you with my idea for attaining better mental health, all of which might be epitomized in "Keep your head, and save your mind." To which I might add, "Let's not lose our heads. Let's use them."

SOCIETY PROCEEDINGS

MEETINGS

Boone-Story

Dr. Jack Spevak of Des Moines discussed "Malignant Tumors in Children" at a dinner meeting March 21 in Boone of the Boone and Story County Medical Societies.

Calhoun

The Calhoun County Medical Society met in Manson on March 16. Dr. Leo H. Kuker of Carroll presented a paper entitled, "Surgery in Stab Wounds of the Heart."

Cerro Gordo

At the regular monthly dinner meeting of the Cerro Gordo County Medical Society, held April 11 at Hotel Hanford, Mason City, Dr. W. R. Turner, Mason City dentist, spoke on "Oral Pathology."

Delaware

The Delaware County Medical Society met with its Auxiliary April 12 at the Glen-Charles Hotel in Manchester.

Dubuque

At the next meeting, May 10, the Dubuque County Medical Society will be hosts at a dinner at the Julien Hotel to more than 200 people—dentists, nurses, pharmacists, labor union leaders, and various civic and church leaders. Speakers at the open forum on the "Evils of Socialized Medicine," to be held at the Senior High School Auditorium following the dinner, will be Mrs. Molly Samore of Sioux City and Dr. Ralph J. Gampell of San Francisco, both of whom are former citizens of Great Britain. All Iowa doctors are cordially invited to this meeting.

Emmet

Dr. Guy Daugherty of the Mayo Clinic was the guest speaker at the April 4 meeting of the Emmet County Medical Society at Estherville. His subject was "Acute Renal Failure."

Johnson

The regular meeting of the Johnson County Medical Society was held April 5 at the Jefferson Hotel in Iowa City. Dr. Horace M. Korn of Iowa City spoke on "Quinidine in the Treatment of Disorder of the Heartbeat," following a business meeting.

Muscatine

Dr. Richard V. Daut of Davenport discussed "Urology" at a dinner meeting April 4 of the Muscatine County Medical Society. Also on the program were representatives of the Muscatine Chamber of Commerce, who described efforts to locate more industry in Muscatine.

Page

The Page County Medical Society held its regular dinner meeting March 16 at the American Legion Club in Shenandoah. Dr. Francis L. Simonds of Omaha was guest speaker. The next meeting is planned for April 20 in Clarinda.

Pottawattamie

"Head Injuries" was the subject discussed by Dr. Carroll A. Brown of Sioux City at a meeting March 21 of the Pottawattamie County Medical Society.

Polk

The editor of the *Journal of the AMA*, Dr. Austin Smith, was the guest speaker of the Polk County Medical Society at a dinner meeting April 19 at the Savery Hotel. Dr. Smith spoke on "Recent Medical Developments." The meeting was held in conjunction with the Polk County Retail Druggists.

Wapello

Newly elected officers of the Wapello County Medical Society are: president, Dr. Charles L. Worley; vice president, Dr. Wilson C. Wolfe; re-elected secretary, Dr. Edward B. Hoeven.

Washington

Dr. Lewis E. January of University Hospitals was the guest speaker at the March 30 meeting of the Washington County Medical Society in Washington. His subject was "Diagnosis and Treatment of Congestive Heart Failure."

Webster

The Webster County Medical Society heard an address on "Pathology of Casualties Caused by Nuclear Fission" at a meeting April 10 at Hotel Warden. The guest speaker was Col. Elbert DeCoursey of Washington, D. C., who is medical consultant to the division of biology and medicine, U. S. Atomic Energy Commission, and one of the nation's leading authorities in that field.

Wright

Guest speaker at the March 23 meeting at Clarion of the Wright County Medical Society was Dr. Frank C. Coleman of Des Moines, whose subject was "Etiologic Diagnosis of Anemia."

PERSONALS

Dr. Walter D. Abbott of Des Moines was the guest speaker at the March 30 meeting in Atlantic which launched the 1950 cancer fund drive of the Cass County chapter of the American Cancer Society.

Dr. Lawrence D. Amick has become associated with his father Dr. L. B. Amick at Sac City. A 1945 graduate of the SUI College of Medicine, Dr. Amick spent two years in the navy and has taken a post-graduate course at the Eastern Maine General Hospital at Bangor. For a time he was staff physician in the Veterans Hospital at Knoxville, Iowa.

Dr. William E. Ash of Council Bluffs has been re-elected president of the directors of Council Bluffs Clinic.

Dr. Milford E. Barnes of University Hospitals, Iowa City, addressed the University Newcomers Club at their meeting April 3 on the subject "The Best is Yet To Be."

Dr. Ransom D. Bernard of Clarion spoke on "Statism and Medical Care" before the Equality Club in Eagle Grove March 31.

Dr. Addison W. Brown of Des Moines addressed the women of Davis County in Bloomfield March 12 at a meeting sponsored by the Women's Federated Clubs and the Davis County Cancer Society.

Dr. Stuart C. Cullen, chairman of the division of anesthesiology at SUI Hospitals, has been appointed by the World Health Organization to set up a school in Copenhagen, Denmark, for training anesthesiology specialists. Dr. Cullen, who has left with his family for Denmark, will remain during the first three months of the course as one of the two senior instructors.

Dr. Charles L. Burr of Des Moines spoke on "Child Nutrition" at a meeting April 11 of the Maple Grove P.-T.A.

Dr. Floyd Christensen of Sioux City has become associated with Dr. L. A. George in Remsen.

Dr. Jay R. Dewey of Schaller, chairman of the Committee on Lay Education for the Iowa Division of the American Cancer Society, spoke to the Guthrie Center Chamber of Commerce March 21 and in Denison on April 18.

Dr. Stephen G. Dobias has closed his office in Chelsea and moved to Old Fort, North Carolina, where he will maintain a private practice in a new hospital there.

Dr. Johann Ehrenhaft of University Hospitals attended a meeting of the Association of Thoracic Surgery in Denver, Colo., April 13-19.

Dr. Emil A. Fullgrabe of Sioux City discussed "Cancer" at a meeting of the Engineers Club at the Jackson Hotel March 22 and at a Farm Bureau meeting at Merville on March 15.

Dr. Rubin H. Flocks of University Hospitals was the guest speaker at the meeting April 3 of the Keokuk County chapter of the American Cancer Society.

Dr. Homer J. Gilfillan of Bloomfield; his six doctor sons, Edwin, Harold, Earl, George, Clarence and Homer, Jr.; and his grandson, Norris, a premedical student at Iowa Wesleyan College, were featured in an article in the March issue of *Look* magazine.

Dr. Carlyle Jacobsen, executive dean of the division of health sciences and services at SUI, has been appointed executive dean for medical education of the State University of New York, to assume his duties there in June.

Dr. Philip C. Jeans of University Hospitals has been named nutrition consultant to the public health services for North Dakota, South Dakota, Nebraska, Kansas, Missouri and Iowa.

Dr. Louis H. Korndner of Davenport, who recently returned from Europe, spoke on "England Under Socialism" at a Kiwanis Club meeting March 23.

Dr. G. H. Lawrence of Minneapolis has been appointed director of the Black Hawk County Mental Health Center. An instructor in psychiatry and neurology at the University of Minnesota, Dr. Lawrence will move May 1 to Waterloo. He was graduated from the University of Wisconsin, served his residency at the University of Minnesota and served four years in the navy during World War II.

Dr. Frank L. Lyman, Jr., discussed "Safeguarding the Health of Your Child," at a meeting March 15 of the Richardson P.-T.A. in Fort Madison.

Dr. Harold Margulies spoke on Socialized Medicine April 10 before a meeting of a P.E.O. group in Des Moines.

Dr. George Mattison, who has been practicing in Glendale, Calif., for six years, has returned to Akron where he had previously practiced.

Dr. Gail A. McClure of Ames spoke on "The Management of Idiopathic Dysmenorrhea" at the twelfth annual meeting of the North Central Section of the American College Health Association which was held at Madison, Wis., April 21-22.

Dr. Charles A. Nicoll of Panora spoke on socialized medicine at the regular meeting of the Cass Township Farm Bureau March 22.

Dr. Harry E. Ransom of Des Moines, city health commissioner since 1932, has resigned effective sometime before July 1.

Dr. Sidney Sands, who has directed research on glandular disturbances in mental illness at the Worcester, Mass., State Hospital, will open offices for a private practice in Des Moines in June or July. A native of Des Moines, Dr. Sands was graduated from SUI College of Medicine. Following his internship, he has been at Worcester, except for service in army from 1941-46, becoming director of research two years ago. The results of the work done at Worcester was the subject of reports in both scientific and popular magazines in March.

Dr. Joseph B. Sindelar of Minden will leave about July 1 for Baltimore, Md., where he will take a four year postgraduate course in surgery. **Dr. Max E. Olson** of Council Bluffs will take over his practice.

Dr. Chris E. Schrock will join the staff of the Rohlf Memorial Clinic on July 1, following the completion of his residency in internal medicine at University Hospitals. Dr. Schrock is a graduate of SUI College of Medicine and served his internship at Cleveland City Hospital.

Dr. Reinhold Snickers, who has been with the Central Displaced Persons Hospital in Salzburg, Austria, and is an ear, nose and throat specialist, is a new staff member at Cherokee State Hospital. Dr. Snickers attended medical schools in Latvia and Russia and holds a degree of doctor of medicine from Emperors Military Medical Academy in St. Petersburg (now Leningrad). Before the war, he was professor of ear, nose and throat at the University of Latvia in Riga.

Dr. William A. Spencer has become associated with Drs. John and Merrill Eiel in Osage. Dr. Spencer took his premedical training and served his internship at the State University of Iowa, receiving his medical degree from Columbia University. Dr. Spencer served in the navy during the War, and for the past two years has served a residency at the George Washington University Hospital in Washington, D. C.

Dr. William M. Sproul of Des Moines discussed socialized medicine April 4 at a meeting of the Marshalltown Rotary club.

Dr. Percy E. Stuart of Nashua was honored by a banquet April 13, celebrating his 50 years of practice.

Dr. Howard V. Turner, psychiatrist and medical director of the Des Moines Child Guidance Center, addressed the child study and parent education group of Temple B'nai Jeshurun at a meeting March 28. His subject was "Cultural Aspects of Child Rearing."

Dr. Eugene D. Wiley has become associated with **Dr. John W. Schwartz** for the practice of general

surgery in Sioux City. A native of Orient, Dr. Wiley was graduated from the SUI College of Medicine in 1928. After practicing at Creston and Merville, in 1938 he moved to Coulee Dam, Washington, remaining until 1942 when he moved to Vancouver, Wash. From 1946-49 he was lessee and medical director of Coulee Dam Hospital.

Dr. Louis T. Winninger has become associated with **Dr. Alfred J. Staudt** in Waterloo. A 1946 graduate of Creighton University School of Medicine, Dr. Winninger took his internship at St. Joseph's Hospital in Omaha and his residency at St. Francis Hospital, La Crosse, Wis. He was discharged from the army after two years' service last February.

Dr. Arthur C. Wubbena of Rock Rapids spoke on "Reducing Farm Costs in 1950 by Safe Practices" before the Adult Night School there March 20.

Dr. Titus C. Evans, director of the SUI radiation research laboratory, and **Dr. Paul J. Leinfelder**, professor of ophthalmology, will conduct one of 34 new research projects in biology and medicine in the Atomic Energy Commission program. They will study the effects of x-ray and neutrons on producing lens damage to the eye.

Dr. Russell Meyers was the leader at a roundtable discussion March 31 following a banquet which highlighted the 1950 spring meeting of Central Association of Electroencephalographers in Iowa City.

Dr. Robert J. Porter of Des Moines on April 4 and **Dr. George H. White** on April 11 discussed "Medicine as a Vocation" to classes at Callanan Junior High School in Des Moines.

WEDDING ANNOUNCEMENTS

Conrad-Peggs

Miss Lola Elizabeth Conrad of Des Moines, daughter of Mr. and Mrs. Lowell Conrad of Kanawha, and Dr. Harold J. Peggs, Jr., son of Mrs. Ruth Peggs of Des Moines, were married March 26 at the home of the bridegroom.

Veile-Brown

Miss Cherie Lou Veile, daughter of Mr. and Mrs. F. D. Veile of Harrison, Neb., and Dr. Roy G. Brown of Onawa, son of Dr. and Mrs. R. G. Brown, were married March 5 at the Methodist Church at Crawford, Neb.

DEATH NOTICE

Reynolds, Earl Owen, 59, died March 14 at Long Beach, Calif., where he had made his home since 1948. Dr. Reynolds had practiced in Greenfield for 31 years. He was graduated from the University of Kentucky Medical School and served his internship in Louisville. He was a former member of the Adair County and Iowa State Medical Societies.

The JOURNAL *of the* Iowa State Medical Society

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No. 6

PRESIDENT'S ADDRESS*

Nathaniel G. Alcock, M.D., Iowa City

I suppose it is quite appropriate for your president to make his swan song in the form of a statement on the "Condition of the Nation," and in so doing to tell you what has been accomplished and to gaze into the crystal ball and see what the future presents in view of the changes that have taken place during the past twelve months.

During 1948 our profession belatedly became aware of the possibilities and danger of socialized medicine. At first we were definitely on the defensive, but by the end of that year out of our confusion and frustration we decided to take our case to the people through an intensive campaign of education. This cleared the atmosphere, and we went to work.

The first half of 1949 was a period of preparation when we became united, organized, trained and somewhat equipped to carry out what seemed to be a wise program. During those first months progress was not particularly evident, but gains were made; and during the last half of that year and through the first months of 1950 results were evident and gratifying. We definitely changed from defensive to offensive tactics.

I am not going into detail about the tremendous amount of work that has been done in our state or to discuss the details of technic and the methods that have been used. I will mention only briefly the bigger things that have taken place.

I think the outstanding thing that has been accomplished is the change in the thinking of our people. At first they were not particularly interested in the cost or the quality of socialized medicine, and they looked upon the whole thing as something affecting only the medical profession. Gradually through education they saw the bigger and more dangerous implications. They came to see not how it was going to change their medical service in cost or quality, but rather how it was

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PRESIDENT-ELECT'S ADDRESS*

Americanism or Socialism

Thomas F. Thornton, M.D., Waterloo

Again it is my pleasant prerogative and distinct honor to preside over this House of Delegates. My desire, in the conduct of this session, is to be fair, just and impartial in every matter called to the consideration of this House as well as to each member or group representing the different sections of the State of Iowa. You delegates, the representatives of your fellow physicians, constitute the legislative body of this Society. Upon each of you rests the responsibility for charting the course to be followed by this Society during the ensuing year. The actions taken by you will determine the policies your officers will pursue in the immediate future, and your deliberations could, quite conceivably, have a more distant and far-reaching effect. The actions ultimately taken here will necessarily affect the lives of all the people of this state and could easily prescribe the type of medicine every physician in the state may be privileged to practice.

I intend to follow the mandate of my predecessor, Dr. Alcock, namely, to activate the council. Last year Dr. Alcock tried his utmost to have good councilor district meetings but met with only fair success. Some meetings were held wherein not one deputy councilor was in attendance. It is my feeling that each councilor or deputy councilor who does not wish to act and work for this Society should resign prior to the nominating committee's meeting so that he may be replaced by a man who will function and do his part for the organization.

Such a request is not bottomed in vanity, arrogance or pride. The coming year will undoubtedly be the most eventful one in the 100 years of this Society. We will be called upon to decide whether Americanism, as we have known it in years past, or socialism, which many countries of the world now know, will prevail. Upon us rests a grave burden. Probably no former House has

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*Presented before the House of Delegates, Iowa State Medical Society, Centennial Session, Burlington, April 23-26, 1950.

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going to affect them in their daily lives. In other words, they came to see that the regimentation of the medical profession was definitely a trend and the first step in the socialization of our country. As the result of this, thousands of groups of our society came to our aid, not particularly to help us, but rather to protect themselves.

Eighteen months ago a poll was taken in this state which showed that nearly 80 per cent of our people were in favor of socialized medicine. Six months ago a similar poll showed that the percentage had decreased to 50 per cent. A recent poll taken during the last weeks of March 1950, covering the returns from 4,000 individuals in the First Congressional District of our state, showed that only 12 per cent wanted socialized medicine. A similar poll in one of the Congressional Districts of Ohio showed that only 10 per cent were on the socialistic side.

This same thing is reflected in the change of our Congressional delegation. They, too, needed information which they were anxious to get. The past year has demonstrated that our Congressmen and our Senators are 100 per cent against anything in the form of the Murray-Wagner-Dingell Bill or in the form of compulsory federal health insurance. To me all this is concrete proof of the wisdom of the program that was initiated late in 1948. While this is encouraging, it certainly should not make us over-confident but should stimulate us particularly along the lines that have brought such favorable results.

At the present time we have evidence that new doctors are settling in Iowa at the rate of nearly 200 per year. About 120 have gone into small towns, and between 70 and 75 into larger towns, so that the ratio of those establishing practice in small towns to those establishing practice in large towns is conservatively five to three. Whether or not this is the result of the campaign of education one cannot say, but this is a reversal in former trends, and since it has been simultaneous with our propaganda, one must conclude that the educational activities may have had something to do with it.

Going a step farther we may say something more about this. We lose in this state through death and retirement between 55 and 60 doctors per year. We also lose a number who move out of the state to practice elsewhere. This number is probably 25 or 30. In other words, while we are gaining about 200 doctors a year, we are losing only about 80 or 90, giving us a net gain of something over 100. This is a partial answer to

Mr. Ewing's false claim that there is a tremendous shortage of doctors.

During the first part of 1949 it became evident to our officers that our increasing activity was going to necessitate an increase of income for the Society. This was placed before your House of Delegates at its emergency meeting in January, and you enthusiastically, maybe not happily, raised the dues 100 per cent. At the same time you authorized your Board of Trustees to employ a much needed general manager, whose function is to be the coordination of our many activities and the establishment of continuity of our long-time policies. Both these are steps certainly in the right direction, and much good should come.

When I appeared before you last January I pointed out to you that the socializers had used three different types of offensive campaign.

The first came in the form of the Murray-Wagner-Dingell Bill. If that had been successful, socialized medicine would have been complete in every detail and accomplished in a short period of time. That failed, and I think that that sort of legislation is definitely out of the picture unless the complexion of our Congress changes.

The second attack came in the form of the so-called compulsory health insurance bill. I pointed out to you that had that been successful, the final objective in the form of regimented medicine would not have been completely attained in one step, but it would have been a big step along that road. That failed, and while it is still before Congress, even its proponents, I understand, have little or no hope of getting favorable action unless and until there is a change in the Congressional make-up.

Both of these things can now be pretty well considered as on the shelf, at least for the time being. But there is another one about which I want to talk to you which, I think, is the most dangerous of all. That has to do with federal grants to education, and particularly federal grants to medical education. There are at least two bills before Congress at the present time having to do with this very thing. Remember this, and remember it well, what the federal government supports, that it can and will control. Any medical school that allows itself to be supported completely, or in part, by federal money will be under the control of the socializers of our federal government. It is utterly impossible to surround these allocations by conditions that will prevent government interference and dictation. Such grants will bring your medical education directly under the control of Mr. Ewing or someone of his type of mind. If the socializers can control medical education, our medical schools

will attract to them and be staffed by men of the socialistic type of mind, and in our institutions young men who are to become our successors will be subjected in their young, formative and impressionable years to this atmosphere. They will be well indoctrinated with the principles of the socialistic state when they go out to practice their art. It is unfortunate that we of the medical profession have not seen this insidious movement as soon or as clearly as we should. The timing of this type of action is perfect. Our people have been led to believe that there is a tremendous shortage of medical service, that there is a shortage of doctors, that there is a shortage of medical schools, that medical education is extremely expensive, that more and bigger schools are needed. I am not sure that any one of these things is actually true, but since our people have been led to believe that they are true, it is going to be extremely difficult to convince our law-makers that these bills should not be passed. The whole thing is perfect to create an effective appeal for votes and, therefore, for the success of these steps toward socialism. On the surface it is a noble and appealing thought and therefore extremely deceptive and extremely insidious.

Our legislators are also quite confused. A year ago the AMA House of Delegates, unfortunately, approved one of these bills. Later the Board of Trustees made a decision exactly the opposite. Naturally, our representatives in Congress do not know what we want. A poll of the First Congressional District of this state shows approximately 2,400 in favor of aid to education with only 1,400 opposed to it. In our Congressional delegation, I understand, the opinion of our Iowa Congressmen is divided in a ratio of four in favor and three opposed to this legislation. I have received letters from some of our Congressmen asking whether or not our State Society has taken any stand on this matter. They wish advice.

So far as our own medical school is concerned I am extremely glad to be able to inform you that it is the opinion of the active instructional staff, as expressed in a statement by their Dean's Committee, that they are quite definitely opposed to federal grants to medical education. What the stand of the University administration, above the Dean's Committee, is on this matter, I am not prepared to say. On several occasions I have asked the opinion of the executive dean, Mr. Carlyle Jacobsen, but have received only a "yes and no" answer. Some two weeks ago he voluntarily promised that he would send me a written statement explaining his stand. I received this only yesterday. It is rather involved, and I cannot say whether it is "yes" or whether it is "no."

I doubt if there is a state in our nation who has so wisely and so generously supported its medical school as has the state of Iowa. Certainly there is no reason for this solvent state to ask alms from our empty and bankrupt federal treasury.

I have received letters from more than one Congressman wanting to know whether or not the State Medical Society has expressed itself in the form of a resolution for or against these federal grants. It has been necessary to tell them that nothing has been done. I think it is highly important that such a resolution should be introduced before the House of Delegates and that you express yourselves emphatically one way or the other.

Again, briefly, I want to call your attention to the necessity of activating our Medical Council. This is a thing that is going to take some years to accomplish. The first step must come from the members of this body. Be extremely critical of the men that you nominate and elect to these posts. Choose those men who are suited for the jobs and who will be willing to spend the time and the effort necessary to carry out their responsibilities. If the Council cannot be activated, then ways and means should be found to amend your constitution so that some organized body can be created to take over the function which is a connecting link between your state office and your county organization.

We have all been aware during the past seven or eight years that there is a lack of understanding between the medical profession of our state and our own medical school. It seems to me that this is all unnecessary and unfortunate. The gap seems to be widening, and this should be corrected. Our medical school and our medical profession should be, figuratively, one and the same thing. There should be no demarcation and certainly no gap between the two. Each one has its part to play in the education of the well prepared doctor. I am sure that, here again, it is largely, if not entirely, a matter of the absence of human understanding. Dr. Scanlon, in his report of his Committee on Medical Education, will bring before you an idea and suggestion that approaches this difficulty from an entirely different angle, and, if followed through, I am sure will bring mutual satisfaction and happiness through understanding. I recommend that you give this careful consideration. It offers much, and we need much.

In closing let me emphasize one more thing. Lack of adequate control of our Congress by the party in power has prevented the full realization of the so-called Welfare State. It is the opinion

of many of our people that Mr. Truman will go all out in the summer campaign to change the complexion of Congress and thus pave the way for bigger advances down the way to socialism. It is up to all to resist this movement and, if possible, stem the tide and open the way to a definite trend in the other direction. This is our next big job, and it certainly is a big one.

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been faced with such momentous problems for the solution of which we are accountable to organized medicine and the people of the great state of Iowa.

The real issue before our country today is socialism. The socialist forces which rankle away at the nation at the present time present a far more menacing picture, to me, than do the advocates of the communist party. If every communist in the United States could be rounded up and liquidated, we would find that we still would have the vital forces of socialism gnawing away at the American way of life. Most of us recognize the aims of the communist party in this country. It teaches and champions the overthrow of our present form of government, substituting in its place the totalitarian rule now existing in Russia and its satellites. Followers of such a concept are rightfully considered potential traitors and patrolled with an attentive eye.

But what of these others, whose leaders occupy some of the highest positions in our government, in our universities and colleges, in our churches, and in the labor union, whose poisonous propaganda is constantly poured forth upon the people over the radio and in the newspapers and from every street corner? These people, I submit, are far more dangerous. This group is present in our population in much greater number. Their opinions, if not agreed with, are listened to and respected. They are not considered to be potential traitors but misguided individuals. They present a sneak attack. Their real object is concealed by deceiving words and phrases. Whether they call themselves socialists or some other name, and whether they designate their legislation as "The New Deal," "The Fair Deal" or whatever, the fact remains that when the ultimate end is reached, it will be nothing short of absolute socialism, which is a very, very small step removed from communism. Members of this latter group are "wolves in sheep's clothing."

Most of the countries of Europe have moved into the socialistic camps. We are mostly concerned with the situation in England since H.R.

6000 under consideration by Congress is a replica of the English form of socialism. If it is socialism in England, what would it be called in the United States?

It is well to note that England did not go socialistic all at once. The program had its inception in 1883. Its growth and acceptance were insidious. Had the recent election in England been decisively in favor of the socialist party, I have no doubt but that they would go all out for complete socialism at this time. Thank God, the socialist members in Parliament were reduced in the balloting to an unworkable majority of nine. You are also aware of the fact that the socialist elements, backed by labor, were defeated at the polls in New Zealand and Australia in the last voting in those countries.

Socialism means, of course, that instead of the government acting according to the dictates of the people, the people become the wards of the government. A good example of how the government looks after its dependents is the American Indian. Today we have more than 12,000 federal employees directly taking care of the 233,000 reservation Indians who are still classified as charges of the government. The number of such caretakers has been increasing steadily over the years. The Indian is becoming less self-sufficient and more dependent on "The Great White Father in Washington."

Contrast that with the American Negroes who in 1862 were mostly slaves. When they were freed, they became responsible for their own welfare. Among them, there were the old, the crippled and the sick. They had no homes, no jobs and little education. But they were free. They had the privilege of finding their own security. Today they are as self-supporting and responsible as any other group of American citizens.

Do we as doctors and as citizens want to be wards of the government, such as the American Indian? If you do not wake up to the fact that your house is on fire, you may be like the Indian. It is time for you to become an alert, active citizen and do your part to aid organized medicine in its fight to remain free. Every doctor in Iowa should feel it a must to belong to his county, state and national societies. He should be an active and crusading member. He should attend his county and state meetings, and above all he should pay his dues as he does his taxes without a murmur and be happy that he is doing his part for organized medicine. I realize that all doctors do not feel that they have the time or want to talk before groups, but all can pay their dues to the county and state societies and AMA so that they

may be able to employ persons to do the footwork for you.

While on the subject of dues, it might be well to say a word about the payment of AMA dues. Kindly pay them to your county society. They in turn will send them to the State Society, who will remit to the AMA. This is the only way your county and state societies can keep their records straight. Please do not as an individual member send your dues directly to the AMA.

Who is exempt from paying AMA dues? The AMA Board of Trustees has settled the controversial question of who is exempt from paying dues to the Association. The following decisions were made by the Board in regard to physicians who shall pay dues to the Association:

1. The county shall determine when the payment of dues is a hardship, but in no case will the AMA dues be remitted unless the county and state dues also are remitted.

A person in actual training for not more than five years after his graduation from medical school will be exempt, provided he also is exempt from the state and county dues.

2. The dues of a physician who joins his county society after July 1 will be \$12.50; if he joins before the first of July his dues will be \$25 for that year.

3. A physician who transfers from one state or county to another will not be expected to pay the dues a second time, but a physician must pay once.

You may think, well, what does this mean to me and what should I do? You should realize that until last year your state and AMA dues were nominal; in fact, AMA dues did not exist. To how many other organizations do you belong to which you pay so little and receive so much? In these days when the pressure upon all of us is great, we find it difficult to find time to fight our own battles. If we are not to lose the fight, we must hire others to fight for us, and that is the reason for higher dues.

There is one way, however, in which all of us can be active fighters. Be sure you and the voting members of your family are registered—and then don't forget to vote. There should be no doctor in Iowa nor a member of a doctor's family who does not vote this year. We must be sure we cast our ballot for candidates who will work for the best interests of the people of this country. Elections are won by votes, and it is well to remember that just a few more will often change the tide. It is well to remember, also, that a politician is dependent upon votes. Make yours count this year.

OCCIPITOPOSTERIOR POSITION

Harry B. Benaron, M.D.,* and
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Although in the presence of strong contractions and adequate pelvis, labor may be as short and uneventful as in the anterior position, the posterior position of the occiput can cause many complications. Deflexion of the head with arrested rotation presents mechanical difficulties. More babies are lost from this condition than from contracted pelvis. Some die from pneumonia contracted in the uterus when the membranes have been ruptured a long time, others from asphyxia. Still others suffer cerebral injury from increased compression of the head. Operative interference may be added to the insult of prolonged labor. The mother undergoes greater trauma because a larger dilating wedge passes through restricted pelvic space. The walls of the birth canal are overstretched and may lacerate.

Incidence.—The quoted incidence early in labor varies to such a degree, 11.5 to 50 per cent, that one is led to seriously question the accuracy of diagnosis at this time. The classic findings on abdominal examination may be masked by obesity or voluntary rigidity of the abdominal wall. Rectal and vaginal examination can be equally unreliable when the presenting part is high, the bag of waters intact and the cervix little dilated.

In our experience posterior position does not occur as frequently as anterior position nor as infrequently as the figure from the Chicago Maternity Center indicates. At the Center the initial diagnosis is made by an intern. The incidence of 20 per cent and 27.1 per cent quoted by Williams and Danforth, respectively, agrees with the clinical observations of many obstetricians and approaches most closely the rate of 24 per cent determined by x-ray by Caldwell and Moley.

There is also a marked discrepancy in the quoted incidence of failure in rotation, 6 to 30 per cent. This may be accounted for by the different number of contracted pelvises in a series (contracted pelvis is one of the chief etiologic factors in persistent posterior position) or by the time at which operative interference is undertaken. Some obstetricians deliver the patient soon after the cervix is completely dilated, and Dr. Bill¹ has had excellent results following this policy.

Presented to the Upper Des Moines Valley Medical Society, Okoboji, Iowa, August 4, 1949.

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Table 1.—The Incidence of Occiput Posterior Position and Failure of Rotation.

Observer	Method Diagnosis	Number Cases	Posterior Per cent	Failed to Rotate Per cent
Calkins, L. A. ²	Vaginal examination (Obstetricians—University of Kansas).....	2,130	50	6
Danforth, W. C. ³	Abd., Rec. and Vag. (Private—Evanston Hospital).....	1,565	27.1	30.3
Crotty, J. G. ⁴	Abd., Rec. and Vag. (Interns—Chicago Maternity Center).....	6,223	11.5	14
Williams, J. W. ⁵	Abd., Rec. and Vag. (Johns Hopkins).....	1,000	20	8.8
Caldwell & Moloy ⁶	X-ray (New York-Sloan).....	200	24	—
Manly, J. R. ⁷	Abd., Rec. and Vag. (Duluth).....	2,000	—	6

Etiology.—The most important cause is pelvic contour. Caldwell, Moloy and D'Esopo⁸ have clarified fetal pelvic relations by x-ray studies during labor. They confirm DeLee's⁹ clinical observation that the anthropoid android pelvis favors this position. The forepelvis is restricted from above downward by convergence of the lateral walls toward the symphysis. There is lateral contraction in the midplane and outlet due to shortening of the bispinous and bituberous diameters. The occiput fits the roomier posterior segment best. Failure of rotation anterior is closely related to deflexion of the head, inadequate or uncoordinated uterine contractions and poor pelvic gutter.

Minor degrees of flat pelvis are also prominent as an etiologic factor. As the head, which is a two armed lever, enters the inlet, the promontory holds back the occiput, and deflexion results. The head descends with the occiput posterior with the forehead the most dependent part. This is carried under the symphysis when it reaches the inclined planes of the pelvic floor.

Mechanism.—Fetal pelvic adaptation is not as favorable in persistent posterior as in anterior position. The head descends to the sacral shelf with the occiput toward the back in one or the other oblique diameters of the pelvis. Deflexion is usually present. If anterior rotation fails, the occiput rotates into the hollow of the sacrum; this is termed the *occipitosacral position*. During the delivery of the head in the occipitosacral position larger planes are presented to the bony outlet, and there is restricted use of the subpubic space. (See table 2.)

Diagnosis: The diagnosis is made on abdominal, rectal and vaginal examination. The classic findings are well known. There are two diagnostic aids which are sometimes overlooked. On inspection of the abdomen a concavity is present above the symphysis if the bladder is empty and the belly wall not too fat. The tragus of the ear (a small cartilaginous protuberance in front of the auditory canal) is an important landmark to be sought on pelvic examination pre-

ceding operative delivery. It always points toward the occiput. The auricle is not dependable because at times it is folded forward and directed toward the face. A large caput may prevent identification of sutures and fontanels if the patient has been in labor a long time.

Labor.—Labor is frequently prolonged and follows a characteristic pattern. A prodromal period which lasts from hours to days precedes the first stage. Premature rupture of the bag of waters often occurs. Labor begins at the point at which the cervix starts to dilate. Primary and/or secondary uterine inertia are the rule. There may be long periods without progress. Descent and dilatation are slow. Dilatation of the cervix may cease at any stage. Rotation and descent of the head may also be arrested at any point. On the other hand, the cervix may dilate completely. The position is termed a persistent occipitoposterior if rotation anterior fails to occur after two and one-half hours in the second stage. Strong contractions and many hours in the second stage of labor may be necessary to deliver the baby in the occipitosacral position.

Prognosis Antenatal.—Patients are screened for possible dystocia on the first prenatal visit. They are placed in one of four categories depending on stature and secondary sex characteristics.

The feminine type, large, is a good breeder. This group is made up of tall women with long arms and legs, broad hips and well developed secondary sex characteristics. The pelvis is large and gynecoid, and there is a minimum of difficulty during delivery.

The feminine type, small, is a fairly good breeder. This group is made up of petite, feminine women. They are short, slender and gracile with small hips. The bones are delicate and fragile. The pelvis is the small gynecoid type. Although most of these patients deliver without difficulty, there is a higher incidence of dystocia than in the first group.

The endocrinopath is a poor breeder. Dr. David Horner¹⁰ gave a classic description of what he termed the *dystrophia dystocia syndrome*. It ap-

Table 2.—Planes Presented to the Outlet in Anterior and Persistent Occipitoposterior Position.

Position	Plane	Diameter	Circumference	Mechanism	Subocciput beneath pubis
Anterior	Occipitobregmatic	9 cm.	31 cm.	Flexion	Pivot point
Occipitosacral	Frontonuchal	10 cm.	33 cm.	Flexion	Forehead beneath pubis
Occipitosacral	Occipitofrontal	12 cm.	35 cm.	Deflexion secondary brow	Root of nose beneath pubis

plies to those of this group. These women are short and squat, with heavy bones, tendons and soft tissues, and a tendency toward obesity. The arms and legs are relatively short as compared with the trunk. One can frequently span the forearms. The fingers are short and stubby or excessively tapering. Many have masculine hirsutes with a heavy growth of hair on the upper lip, extremities and a triangular escutcheon. There is a high incidence of contracted pelvis of the android, anthropoid and flat types. Also, heavy soft tissues encroach upon pelvic capacity. Many have an infantile-like uterus and give a history of relative infertility. The endocrinopath is the opposite to the good breeder. The incidence of persistent occiput posterior is high.

The assymetric type usually delivers without too great difficulty if the original pelvis was adequate. This group is made up of women who have a pelvis deformed either by disease or trauma affecting the back, pelvis or lower extremities. The gait of the patient indicates the difficulty. The pelvis is unilaterally contracted, and the baby often delivers best in the posterior position. Of course nutritional disease such as rickets can deform any pelvis.

Careful bimanual examination adds specific knowledge concerning the pelvis and soft tissues. X-Ray pelvimetry is done when contracted pelvis is suspected.

Prognosis During Labor.—Posteriors are divided into low and high at the onset of labor. The low engaged head can, with few exceptions, be delivered through the birth canal. The high posterior is unengaged, and the question arises as to whether cephalopelvic disproportion is present. A seeming disproportion may disappear during the course of labor or after correction by operative means. Contracted pelvis, large baby, faulty attitude and position, undeveloped lower uterine segment, uneffaced cervix or polyhydramnios may account for the high station.

Impression Method.—Two procedures aid in determining the presence or absence of disproportion. The first is known as the impression method. If the most dependent part of the head can be brought to the level of the ischial spines as determined by rectal or vaginal palpation when pressure is exerted on the head or body abdominally, no insurmountable (inlet) disproportion exists. Voluntary resistance and rigidity on the part of the patient may prevent descent, as may any one of the factors mentioned above. If the head cannot be brought to the spines, a further evaluation is necessary.

Test of Labor.—The second aid is the test of labor. What is a test of labor? One simply

permits the patient to labor to see if the head will enter the pelvis. The conditions which are present are important. A patient has had an adequate test of labor in five hours if the bag of waters has ruptured and good contractions, which last 45 seconds or longer, recur every three to five minutes. A test has not been adequate in a much longer period if the contractions are weak and irregular or the bag of waters intact. With the use of antibiotics, chemotherapy and the command of a technic for extraperitoneal section, a much longer test of labor is possible than previously.

Evaluation.—Each patient deserves an evaluation in writing of the major factors concerned in labor, i.e. the passages, bony and soft, the passenger and the powers. A careful abdominal examination rechecks the position of the baby, permits an estimate of the size and determines the presence or absence of over-riding. Over-riding is of more significance in primigravidas than in multiparas. A sterile pelvic examination checks the pelvic measurements and contour and determines the amount of consistency of the soft tissues. The size, consistency and position of the fetal head are estimated and an attempt made to impress it into the pelvis. Bedside observation evaluates the frequency, strength and duration of the uterine contractions.

Experienced x-ray pelvimetry is useful as a laboratory method to confirm or disavow diagnosis of contracted pelvis, but the x-ray has but a limited use in prognosis. Caldwell and Moloy¹¹ point out that a contracted pelvis may prove adequate because under the powers of labor use may be made of compensatory space as the head passes through the birth canal; while, on the other hand, a normal pelvis may prove inadequate because of faulty fetal pelvic adaptation and poor powers.

Age, parity, degree of fertility and previous obstetric history are also considered in making a prognosis. As labor proceeds, all of the factors which have a bearing on the case are considered, a prognosis is formulated and a plan of treatment instituted. If the head engages and progress is satisfactory, a decision is usually made to deliver the baby through the birth canal.

Conduct of Labor.—The chief objective is to secure complete dilatation of the cervix, descent of the head and delivery within 24 hours of the onset of labor. Prolonged labor kills many babies. At times the best efforts at management fall short of this goal, and labor drags on. It is to be remembered that the prodromal phase is not considered as labor. Labor starts with the beginning of cervical dilatation.

The patient and her family are reassured during the prodromal period. Rest is secured by

the use of small doses of barbiturates. Premature rupture of the bag of waters opens an avenue of infection into the uterus. Generous use of chemotherapy and antibiotics help to protect the patient against sepsis and the baby against pneumonia.

Primary uterine inertia is frequently encountered, and its treatment requires infinite patience on the part of the attendant. It is thought to be due to poor adaptation of the presenting part and lower uterine segment. The deflexed posterior fits the cervix like a square peg in a round hole. Two other factors may contribute to the inadequacy of the contractions; faulty fetal axis pressure and a poorly placed cervix. Unless the force of the uterine contraction is transmitted through the axis of the baby directly through the axis of the cervix much of the power is lost.

Faulty fetal axis pressure may be due to marked uterine deviation to the right or left of the midline, rotation on the long axis or pendulous abdomen. At times the cervix is so mal-placed that it is found high in the birth canal, posterior and opposite the promontory. The correction of this relationship not only prevents dissipation of the available force but improves the quality and frequency of the uterine contractions. The axis of the baby may be corrected by manually correcting the position of the uterus and maintaining it in a favorable position by the use of Beck's¹² abdominal binder. A makeshift binder does not work. The cervix is drawn into the center of the pelvis vaginally.

Contractions are stimulated by high, hot enemas. More than one in 24 hours is brutal. Artificial rupture of the bag of waters is the most dependable and safe way to stimulate contractions. This method is contraindicated if the head is high. The posture of the patient is important. She is encouraged to be up and walking. The sitting or prone position is permitted for rest periods. Sedation is withheld until an indication for rest arises. All of the drugs which are used for this purpose slow down labor and progress ceases. If 5 cm. dilatation of the cervix can be secured before sedation is given, much has been accomplished.

Oxytocic drugs contraindicated.—The question arises as to whether one is permitted the use of oxytocic drugs to stimulate contractions. In a carefully selected group of 233 cases of primary uterine inertia treated by fractional doses of pituitrin at Johns Hopkins University, Dr. Eastman¹³ reports one ruptured uterus and 5 stillborn babies which were attributed to the use of pituitrin in undiagnosed contracted pelvis. These results add weight to our own opinion that oxytocic drugs

are particularly contraindicated in the treatment of inertia in posterior position, because larger fetal head planes may be presented to restricted pelvic areas in such a manner that a relative, if not an actual, cephalopelvic disproportion results.

Secondary uterine inertia is specifically treated by sedation. Theoretically, the uterus is tired so it refuses to work. Therefore the organ is rested. If a primary uterine inertia has preceded, small doses of medication suffice to secure a four hour rest period. Demerol 100 mg. and scopolamine 0.4 mg. (gr. 1/130) usually work well. Another 50 mg. of demerol may be given if necessary. A second administration of medication is avoided if possible. However, if a secondary period of inertia occurs, the patient is again sedated.

Fluid and Caloric Intake.—Labor is work, and an acidosis develops unless the fluid and caloric intake are maintained. Patients in hard labor seldom retain food or fluids. One thousand cc. of 5 per cent glucose in water intravenously every eight hours prevents acidosis and improves contractions.

Delivery.—There is no indication to interfere as long as the patient makes progress. Anterior rotation and spontaneous delivery may occur, or the occiput may rotate to the sacrum and deliver spontaneously as an occipitosacral. Deep mediolateral episiotomy through the sheath of the levator muscle into the ischiorectal fossa is indicated for the latter mechanism. Many obstetricians prefer to prevent the delivery of the head in the occipitosacral position.

The head may become arrested in the anterior, transverse or posterior position and progress cease. Then forceps delivery, preceded by manual or forcep rotation where indicated, is the procedure of choice if the head is engaged and the cervix completely dilated and effaced. The patient is left in the second stage of labor two and one-half hours unless a maternal or fetal indication arises for earlier delivery. A much longer second stage is indicated to gain descent of the head to a low station if it is in the mid-pelvis. Many technics are described for manual and forcep rotation. There is not time to discuss these. In general, the following conditions favor the success of any method of rotation: a well molded head, generous lubrication of the vagina with green soap to assure mobility and deep surgical ether which abolishes uterine contractions. The latter permits rotation of the back anterior. The head always follows the back and will return to a posterior position unless the back is kept anterior. To deliver the baby in a posterior position by forceps is a compromise which may injure or kill the child. Very rarely the

contour of the pelvis indicates delivery in the occipitosacral position.

Dührssen's incisions are used by us if the head engages and the cervix effaces but does not dilate. The cervix is cut at 2, 6 and 10 o'clock. If the cervix is not effaced, the uterine arteries are not retracted and fatal hemorrhage can result. A Vorhee's bag is infrequently used to secure complete dilatation in multiparous women. Manual dilatation of the cervix is condemned because it never dilates but lacerates. Deep cervical lacerations can extend upward and cause a ruptured uterus.

Version is used most frequently in the multiparous woman with an unengaged head. The conditions are extremely important. They are an adequate pelvis, a cervix which is completely dilated and effaced (WARNING: there is no such thing as a dilatable cervix), a bag of waters not ruptured longer than five hours. Deep surgical ether is used to gain relaxation of the uterus. In this operation good results depend greatly on the depth of the anesthetic. A tight contracting uterus is an absolute contraindication to this procedure.

Craniotomy is reserved for dead or dying babies or for those cases where any other type of delivery endangers the life or health of the mother.

Caesarean section is indicated where cephalopelvic disproportion exists. In only a few cases can disproportion be diagnosed without the test of labor. Even when there is no question about the matter, it is best to let the patient labor a little while in order to protect the baby. Uncomplicated, elective Caesarean sections (at Chicago Lying-in Hospital¹⁴) show a 50 per cent greater mortality rate for the baby than the gross infant mortality rate.

Occiputoposterior position in itself is never an indication for Caesarean section. It is at times a temptation to resort to this operation even though a strict indication does not exist. This is not justifiable. Most maternity clinics feel that if the incidence of section exceeds 5 per cent, general surgery has been substituted for obstetric skill, and obstetrics no longer exists as a specialty.

Certain conditions may indicate section even where cephalopelvic disproportion does not exist. One is danger threatening the life of the mother or baby where delivery from below cannot be immediately executed. Others are lack of satisfactory progress in a multiparous woman who has a bad obstetric history or no living children, lack of progress in an aged primigravida, an infertility case or a patient with rigid cervix and inadequate powers. Of course the conditions for section are observed, and these also influence the

choice of technic. We prefer laparotrachelotomy. The extraperitoneal section (Water's) technic is used for potentially infected cases. X-Ray of the abdomen to rule out fetal abnormalities is always done.

Conclusion.—A comprehension of the disadvantages of fetal pelvic adaptation in persistent occiputoposterior position together with the conditions which are met in each case dictates the management. The accoucheur may consider himself in a room with five unlocked doors labelled: Spontaneous Delivery—Forceps—Version—Caesarean Section—Craniotomy. Labor is so conducted that as many are kept open as long as possible. Nature may lock one door after the other, but the physician never locks one himself. The fifth door is always open. Sad is he who is forced to use the craniotomy exit through an error in judgment. The outcome for each patient depends on the course of labor, the conditions present and the skill of the attendant.

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REVASCULARIZATION OF THE HEART*

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This paper is a discussion of the rationale of the surgical treatment of coronary artery disease by arterial anastomosis to the coronary sinus. The remarks are derived from previously reported experimental work.^{1,2} The surgical approach is based on the fact that cardiac embarrassment due to atherosclerosis is the result of myocardial ischemia.

Complete thrombosis in large coronary arteries has frequently been noted in patients dying of other diseases. Occlusion of a large coronary vessel can be tolerated if the occlusion takes place slowly enough for the development of adequate collateral circulation. In 1932 Moritz³ observed extracardiac vascular communications to the myocardium in cases of acute pericarditis. Acting on this observation, Beck induced inflammation to stimulate formation of collateral vessels.^{4,5,6} From the experimental work, an operation consisting of mechanical and chemical irritation was devised. Various vascular structures were grafted to the heart. Thirty-seven patients with severe coronary disease were operated upon using this technic. The results of these procedures were encouraging.⁷

In 1946 Beck began a series of experiments which seemed to be more effective in supplying the heart with oxygenated blood. For technical reasons and because these arteries are already diseased, it is impossible to operate upon the coronary arteries directly. Careful consideration of



Fig. 1. The technic of dissection of the sinus, its isolation by temporary ligatures, and the anastomosis of the proximal end of the carotid artery to the sinus.

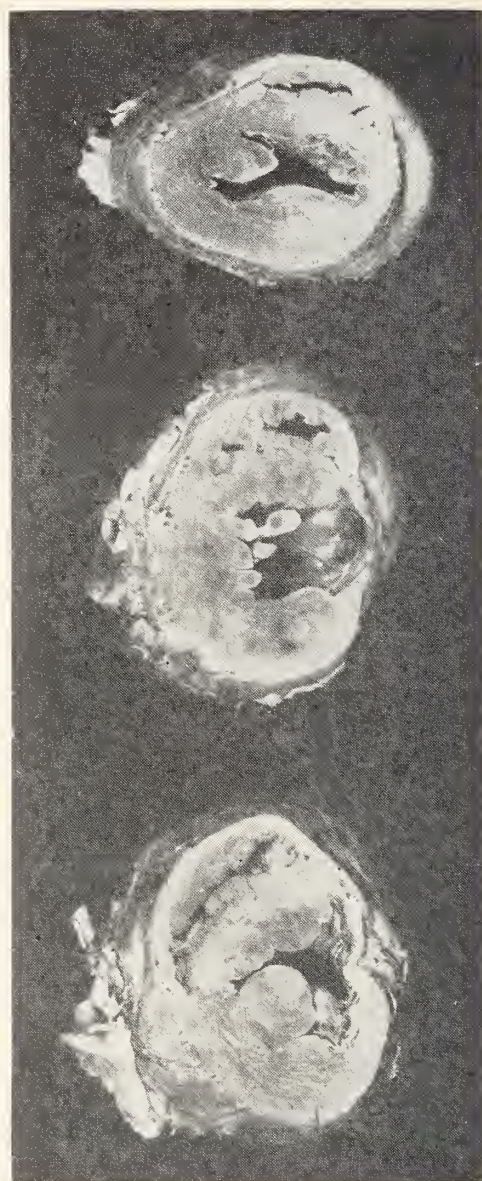


Fig. 2. Cross sections of three hearts with large healed infarcts; all had carotid to sinus anastomoses, but the anastomosis became thrombosed. All survived ligation of the anterior descending ramus of the left coronary artery. (Control series had the same surgical procedures as figure 3 but without benefit of a supplemented circulation.)

the coronary circulation presented several possibilities. Wearn and his associates⁸ had shown that an appreciable amount of the coronary arterial blood (up to 30 per cent) does not leave the heart by its major venous channels. This blood presumably leaves the myocardium by way of the Thebesian channels or by other exits. Gross⁹ and Fauteux¹⁰ had already shown that the heart could tolerate and derive some measure of benefit from ligation of the coronary sinus. Beck postulated that the venous system of the heart could be converted into an accessory arterial system by

*Sponsored by the Veterans Administration with the approval of the Chief Medical Director. Statements and conclusions published by the author are a result of his own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

perfusing the venous system with arterial blood, allowing it to find its exit through other channels. Problems arose in the technic of working on small vessels, the selection of a source of arterial blood, from dangers of manipulation and from the physiologic effects of disturbing the coronary circulation.

The Test of Benefit

Two to three weeks after completion of the anastomosis the heart was exposed, observed, and the anterior descending ramus of the left coronary artery was dissected and ligated at its junction with the circumflex branch. (In previous experiments ligation of this artery produced

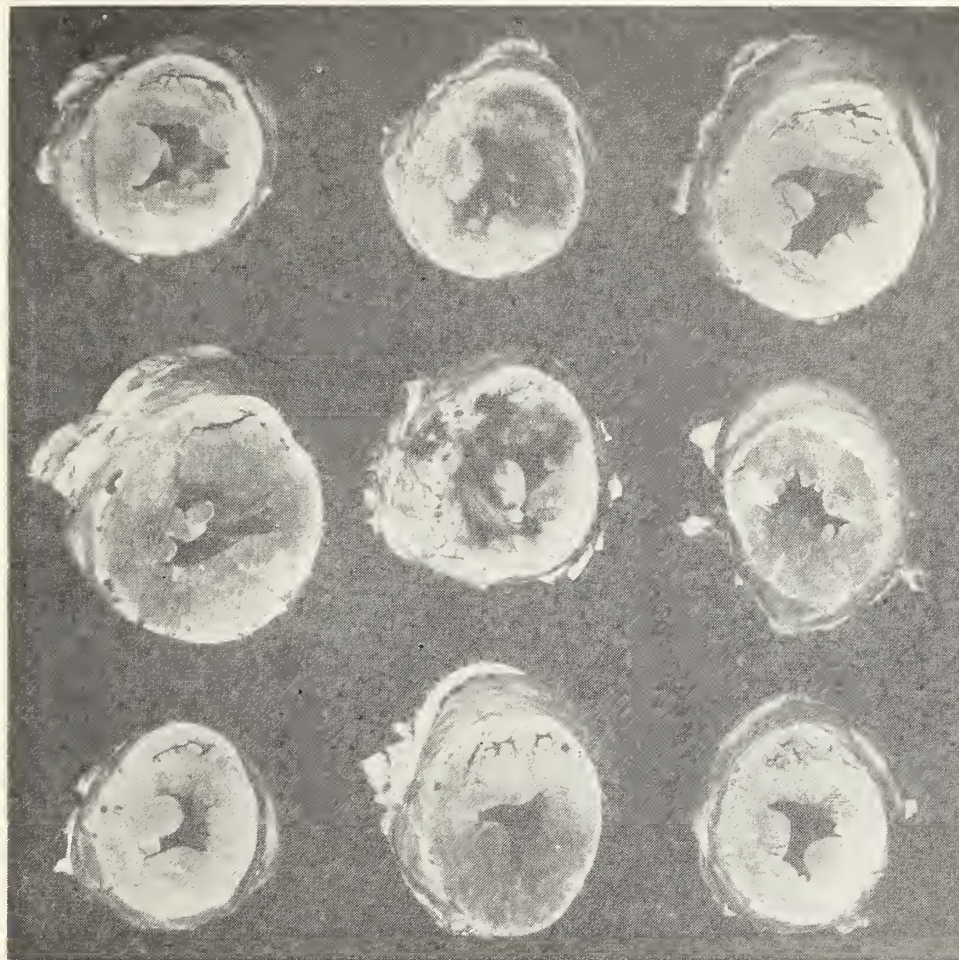


Fig. 3. Cross sections of hearts of 9 dogs with patent carotid to sinus anastomoses. All survived ligation of the anterior descending ramus of the left coronary artery.

Operative Procedure

In the initial experiments a series of operations were performed. First, the coronary sinus was dissected near its ostium and partially ligated. Seven to 20 days later the left carotid artery was ligated at its bifurcation. The proximal end of the carotid artery was inverted into the chest and anastomosed to the coronary sinus. Fine silk sutures were used. The previous partial ligation of the sinus was then made complete. Figure 1 illustrates the technic of the sinus dissection, isolation and anastomosis.

death in 70 per cent of normal dogs. Death usually occurred in less than 30 minutes. All normal dogs surviving such a ligation had large anterioapical infarcts.⁵⁾ Of the first 20 dogs to survive carotid to sinus anastomosis, 10 had thrombosed anastomoses and could not be expected to show improved circulation. When the descending coronary artery was ligated in these 10, 7 died immediately and 3 survived. The 3 that survived were examined later, and all had large healed anterior infarcts. (Control series.)

Ten dogs were found to have patent anasto-

moses. All 10 survived one stage ligation of the descending ramus of the left coronary artery. One died on the eighth and another on the thirteenth postoperative day. Both of these dogs had small infarcts. Of the 8 remaining dogs, 4 had no infarcts, 2 had small infarcts, and 2 had diffuse interstitial fibrosis. These findings were predicted from previous electrocardiographic studies.¹² When the hearts were examined, the patency of the anastomoses was determined by volume-flow studies through the anastomosed carotid artery, and it was shown that the descending ramus had actually been occluded by the dissection and the ligation.

Comment

The purpose of this paper is to point out that the heart can be protected from occlusion of a major artery, a procedure which is 70 per cent fatal in normal dogs. The clinical significance is immediately apparent. Beck's experiments suggest that an arterial anastomosis to the ligated coronary sinus will provide oxygenated blood in large quantities to the ischemic heart.

The next step, therefore, was to devise an operation which might be applied to the human. For



Fig. 4. Graft from the aorta to the ligated coronary sinus, as used in the human operation. (a) The Pott's clamp on the aorta, isolating a segment and beginning the anastomosis to the aorta. (b) The anastomosis to aorta. (c) The completed graft, showing posterior aspect of the heart, coronary sinus and graft from aorta to sinus.

physiologic reasons the carotid artery is not available. The coronary sinus lies close to the descending aorta. A short segment of vein can be utilized to produce a new branch from the aorta, which transforms the coronary venous system into an accessory arterial system under a high arterial pressure. The aortic end of the anastomosis is facilitated by use of the Pott's clamp, which permits uninterrupted flow of blood to the lower half of the body during the operation.

Discussion

Physiologic experiments are being performed to determine the amount of flow which can be tolerated in the venous graft and in the venous coronary system. It has not been determined whether ligation of the sinus should be done prior to or at the time of the anastomosis. After ligation the pressure in the coronary sinus reaches levels of arterial pressure but returns to near normal in about three weeks. There is some vascular damage with hemorrhage and perivascular fibrosis. With the prolonged arterial pressures of a patent anastomosis these changes may progress to total fibrosis in long term experiments. Arteriovenous effects may develop, but it is possible these will benefit an ischemic heart. Post-operative stasis in the veins has been a serious complication; apparently there is a variable time element involved before the widening of the Thebesian channels takes place. Perhaps the greatest problem is whether a diseased heart will be able to tolerate the extensive surgery involved. There is evidence that the heart receives immediate benefit when the anastomosis is completed.

Conclusion

Experimental conversion of the venous coronary system into an accessory arterial system by arterial anastomosis has been shown to protect the heart from total occlusion of a major coronary artery. This suggests a profitable approach to the human problem of coronary artery disease.

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HEART FAILURE

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The mechanisms producing heart failure remain unknown. Investigations designed to learn more about them have raised many stimulating questions, but they have not provided many answers. It is necessary to consider some of those questions if only to become oriented. It may now be possible to detect some unification in an apparently disparate group of theories. The present discussion will not be academic nor will it be a review of the literature. My objective is to show some of the conflicts created by vigorous research.

The easiest concept to accept has been the most obvious one. The heart as a two-way pump, causing trouble by inefficient emptying, has been a deceptively attractive idea. This has allowed its proponents to explain pulmonary congestion and edema and their attendant symptoms as a mechanical flooding of the lungs and other tissues. A tremendous bulk of data in hospitals and laboratories has provided arguments to favor this theory. One important finding has been the demonstration of an elevated venous pressure in the presence of congestive heart failure. This is said to be the result of blood filling the veins when it cannot enter the cardiac chambers with normal pressures. It is interesting that this particular finding has been used in a different manner to contradict what it is also purported to prove.

Several important contributions have produced a healthy confusion in this whole problem. Some of them have derived from newer methods of investigation. It is banal, but still inherently true, that progress in research to a great extent depends upon improved technics. In cardiophysiology this truism certainly gains further support. Even those only casually interested are aware of the wide use of catheters placed in the great vessels and heart chambers. Associated with this has been the skilled use of many tools: oximeter, pressure manometer, intraarterial needle, fluoroscopy and others. These have required a team of workers completely familiar with the requirements of the whole group.

Two other important factors should be noted. One of these is the rather belated use of the human subject in research. The almost exclusive use of laboratory animals in past years has led to some errors. This was especially true where data were established with the anesthetized, thoracotomized dog and transposed to man. Now the physiology of persons with normal circulatory systems has been determined by direct examination. Tests of functions under basal conditions

and with exercise have furnished a base line that is essential.

The other factor is the wide use of clinical material studied with the methods of research workers. Patients with heart disease have contributed some of the most significant data concerning cardiac output, kidney function, sodium excretion, venous pressure, blood volume and so on. They have been studied with radioactive tracers, renal clearance substances and the other tools of biochemists and physiologists. All types of heart disease have been keenly scrutinized, including actual failure of the circulation.

It is best to consider the specific major questions separately in a rather arbitrary fashion. The doubtful assumption will be made, for discussion purposes, that the mechanisms of various types of lesions are essentially the same when decompensation occurs.

The determination of cardiac output has created many problems. In the human subject it is necessary to use indirect methods, of course, and these have not been too defensible in the past. The present studies make almost exclusive use of the Fick principle. The formula is: cardiac output = O_2 consumption cc. per min./a-v O_2 diff., cc. per l. of blood. For this determination the oxygen consumption is measured quite easily with a Tissot spirometer or Douglas bag. The arteriovenous oxygen difference, theoretically, is the difference between pulmonary artery and pulmonary vein blood. The former can be obtained by use of the catheter, and the latter is assumed to be the same as arterial blood obtained from an extremity. Formerly various dyes and gases were used, and at present there are some workers who make extensive use of the ballistocardiograph, which they feel is highly accurate.

It is quite certain that the cardiac output varies greatly in heart failure. It may be found anywhere from well above the normal level (measured in terms of body surface to give a cardiac index) to well below. Patients with hyperthyroidism or beriberi and heart failure notoriously have high cardiac output levels. Obviously, the cardiac output, no matter what its level, is inadequate for the needs of the individual. The heart has two major ways of meeting the need for more circulating oxygen: (1) by increased output of blood, and (2) by increased local use of oxygen to increase the arteriovenous oxygen difference. Output will be increased so long as the venous return is high and the myocardium is not stretched excessively. When dilatation is excessive, output falls. This may occur during periods of increased activity which, earlier in the disease process when the stretching was less extreme, led to increased

output. It may occur if venous return is excessive for other reasons, such as with hypervolemia.

The proof of varying output in established failure has been accepted generally. The meaning of it is still disputed. It is frequently argued that congestion occurs only when output is markedly diminished below body demands but that changes in venous pressure and fluid retention appear in an entirely different manner.

All recent studies have emphasized the role of the kidney. Here, therapeutic results have in some instances preceded research. We now know that the production of edema is closely paralleled by the retention of sodium. Regardless of other factors, the key to fluid excretion is the sodium ion. Venous pressure can be kept at levels considerably above those found in patients with heart disease without the appearance of edema in normal individuals. Edema may be cleared by restriction of sodium from the diet of a patient in heart failure and may be formed again by the addition of sodium, both without any other therapeutic measures.

It is difficult to explain the proved retention of sodium on the basis of increased tubular reabsorption. There is a diminished renal plasma flow found in patients in failure. This diversion of blood to areas other than the kidney reduces the total amount of plasma which is filtered. No matter how much sodium is now excreted, apparently there is more retained than under normal conditions. This decreased renal plasma flow is probably the cause of sodium retention. There is disagreement about where in the usual progress of heart failure this mechanism becomes active. One group asserts that it follows increase of venous pressure on a congestion basis; some of these even believe that it is increased renal vein pressure that causes the change. The other group believes that the increased venous pressure follows rather than precedes the diversion of blood away from the kidney. They find an absolute increase in blood volume in the face of a constant fluid intake. This, they state, is the result of sodium retention and eventuates in increased venous pressure, increased venous return, and only then in the chain of events described above. An important point of departure exists, therefore, but it should be susceptible to proof with more data.

We should now turn our attention more specifically to the blood vessels. The preceding discussion has considered them as passive tubes responding only to the quantity of fluid contained or to interference with emptying. Thus, increased venous pressure was said to occur when output

was inadequate, leading in turn to a raised auricular pressure; or it occurred with hypervolemia. But veins do have tone. Venous pressure may remain elevated after death for several hours. A venomotor control center in the brain has been postulated. This may respond to hypoxia with considerable sensitivity to cause increased tone. Under normal conditions this would prove advantageous by furnishing the increased venous return needed for the heart responding to hypoxia with increased output. In the patient with congestive failure and hypoxia, already suffering from excessive ventricular dilatation, the increase in flow is harmful, interfering with good output, increasing hypoxia and perpetuating the imbalance. The favorable effect of phlebotomy easily fits with this theory as with the others.

Possibly the most neglected portion of the circulation is the pulmonary vascular bed. The same amount of blood which flows through the systemic circulation also flows through the "lesser circuit," which is a maze of capillaries and arterioles, some of which lie in intimate relationship with oxygen-filled alveoli. Most of the blood found in the lungs is derived from the pulmonary artery, but a significant amount comes from the bronchial arteries even under basal conditions. The latter are nutrient vessels, essential for survival.

The circulation of the lungs is less accessible for study than most other vessels. Early experiments were often highly inaccurate because the thorax was opened with a profound disturbance of pressure relationships. It must be remembered that a relatively negative pressure makes the chest cavity unique in the physiologic apparatus. Furthermore, an extensive system of lymph channels exists, emptying into ducts which are not adequate to handle increases in lymph flow beyond points which are illy defined.

Apparently the capillaries and arterioles of the lungs are constricted by altered oxygen and carbon dioxide levels. Hypoxia produces a measurable increase in pulmonary artery tension which is independent of nervous influences from either the vagus nerves or stellate ganglion. It has been suggested that during such periods of decreased pulmonary artery flow the bronchial artery flow may increase concomitantly to a degree which may culminate in pulmonary edema. Furthermore, it may be that serious embarrassment of pulmonary circulation may occur whenever the output of the heart begins to vary due to any disease process. Striking changes can be demonstrated in the morphology of the lung vessels in chronic heart disease. It is surprising that more study of the pulmonary circulation has not been made by both physiologists and pathologists.

Any interference with oxygenation can quickly lead to a series of damaging events. Pressures in the pulmonary artery are influenced by intrathoracic pressures. These in turn are altered by the depth of the inspiratory and force of the expiratory efforts. In addition, the amount of blood in the pulmonary vascular bed varies directly with the vital capacity. As engorgement increases, the number of air-filled alveoli decreases, hypoxia increases and alveolar exudation and lymph flow increase. The end result is disastrous unless effective remedial measures are instituted promptly.

It would be misleading to summarize these remarks with any attempt at a solution. To do so would be to assume facts where they do not exist. The present studies have led to a reasonable emphasis on aspects of the circulation which include the heart as just one part of a system which can break down at several points. The terms *forward failure* and *backward failure* have been deliberately avoided until now because they have ceased to mean anything—if, indeed, they ever did. Usually some defect of the heart initiates the circulatory maladjustments that lead to inefficiency great enough to produce symptoms. At that stage it is likely that several things have occurred: Renal plasma flow has decreased with resulting sodium retention; hypoxia (localized or generalized) has led to a rise in pulmonary artery and systemic venous pressures; engorgement of the pulmonary vascular bed has occurred due to the foregoing plus inadequate emptying of the heart chambers, an event which sometimes is late in the sequence. The portion of the circulation most strikingly altered varies considerably and must be determined for each individual. Thus, hypervolemia may be marked enough to make phlebotomy a life-saving procedure at one time and may not be demonstrable at another.

It is encouraging to know that so many mysteries exist. They offer what little stimulus is needed by the men interested in heart disease. The conflicts presented here will be solved. Fortunately, more will follow.

COURSE IN CYTOLOGIC DIAGNOSIS OF CANCER

A two week course in Exfoliative Cytology for the diagnosis of cancer by the smear technic will be offered at the University of Colorado School of Medicine, July 24-August 5. Material from different systems of the body will be available for study with correlation of clinical, x-ray and pathologic findings. Tuition—\$100.00.

Physicians interested in enrolling should write to Walter T. Wikle, M.D., director of Laboratory of Exfoliative Cytology, University of Colorado School of Medicine, 4200 East Ninth Ave., Denver 7, Colo.

MASSES IN THE NECK: RECOGNITION AND SURGICAL MANAGEMENT

Ralph L. Gorrell, M.D., Clarion

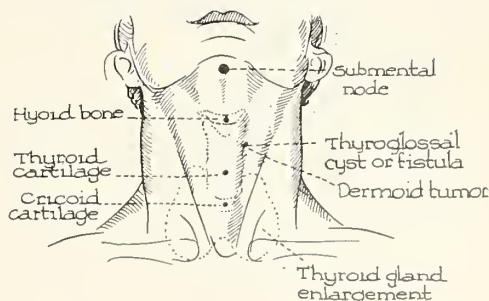
Proper identification of a mass in the neck is of utmost importance to the patient and his physician. If a definite diagnosis is not made, the patient and his relatives are subjected to needless worry, as occurred in case 1. Before exploring a neck swelling or treating it with x-ray, a diagnosis should be made.

Location is often almost pathognomonic because of the peculiarities of the anatomy and embryology of neck structures. Table 1 and

Table 1. *Masses in the Neck*

Region	Nature of Mass
Midline anteriorly	Thyroglossal cyst or fistula (above thyroid gland) Dermoid cyst (teratoma) Thyroid gland enlargement Lymphadenopathy
Submaxillary area	Submaxillary gland enlarged due to duct obstruction or tumor Sublingual gland inflammation, tumor or obstruction Lymphadenopathy Mikulicz's disease
Parotid area	Parotid tumors, mumps, duct obstruction Lymphadenopathy
Supraclavicular area	Lymphadenopathy, Virchow's node Aneurysm, subclavian Primary pulmonary sulcus tumor Lymphosarcoma, teratoma, Hodgkin's disease Cervical rib
Lateral region (anterior and posterior triangles)	Lymphadenopathy Branchial cyst or fistula Cystic hygroma, teratoma Carotid body tumor Esophageal diverticulum
Posterior area	Fatty tumors Dermoid cyst Sebaceous cyst Infections (carbuncle, furuncle) Meningocele

figures 1 and 2 indicate typical locations of lesions in the neck. A swelling in the anterior midline of the neck superior to the thyroid gland is usually a thyroglossal duct cyst or fistula, as in case 2, and uncommonly a dermoid cyst. A mass in



Typical Location of Masses in Anterior Midline

Fig. 1. Typical location of neck masses in anterior midline.

the lateral area along the anterior border of the sternomastoid muscle is often a branchial cyst or fistula, as in case 3.

Inspection helps to define location and may also reveal pulsation, either expansile or transmitted,

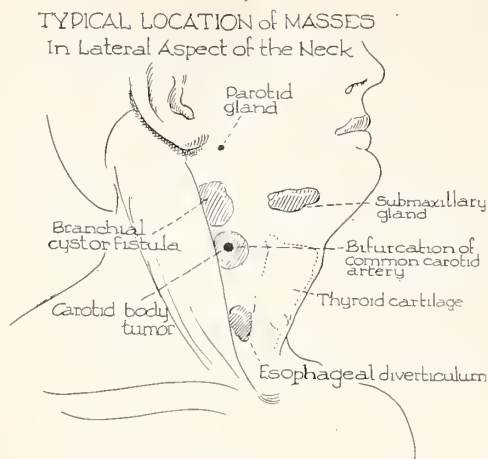


Fig. 2. Typical location of masses in neck in lateral area.

and shape and movement of the mass. Figures 3 and 4 indicate the following typical motions: upward movement on swallowing, caused by the

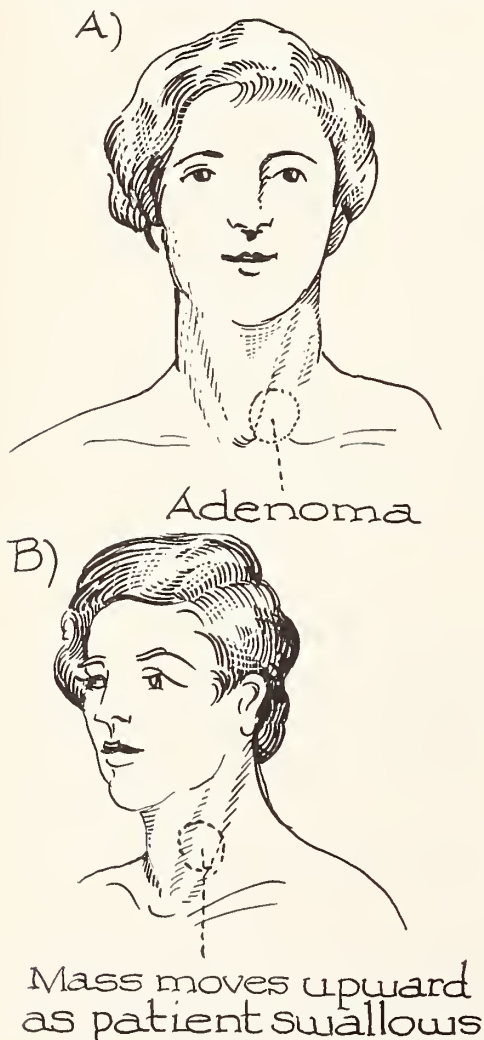


Fig. 3. A mass which moves upward as the patient swallows is of thyroid origin.

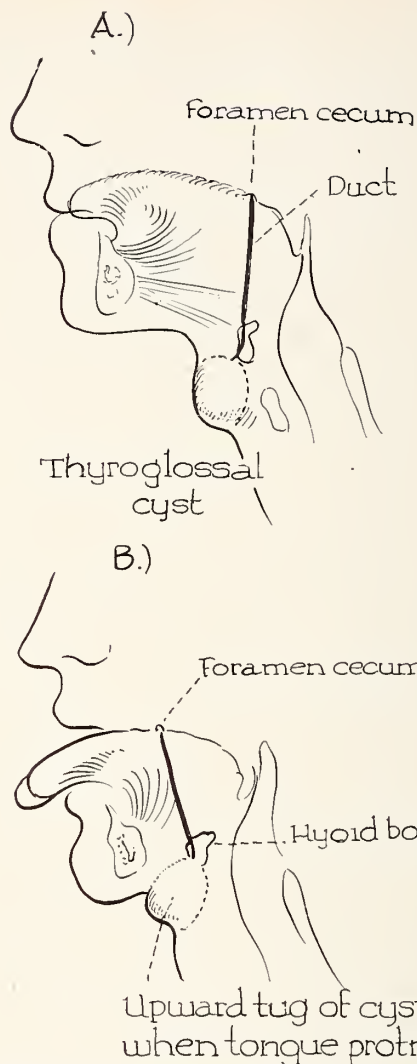


Fig. 4. A mass which moves up when the patient protrudes his tongue is of thyroglossal duct origin.

thyroid gland, and upward movement on protruding tongue of thyroglossal origin.

Palpation confirms the site of the mass, its consistency, tenderness, size and shape, relation to fixed points, pulsation, together with the above motions. Palpation with one finger inside the mouth is often helpful in differentiating swellings in the floor of the mouth, as in case 5.

Transillumination: Cystic hygroma transmits light brilliantly¹ except when many small cysts are present, as in case 4.

Auscultation may reveal venous or humming sounds over an undiagnosed swelling. *Roentgenograms* should always be taken, if only to exclude other diagnoses. If employed after aspiration and injection of iodized oil, they may be of great diagnostic value.

Aspiration of typical fluid or cells or *biopsy* may confirm the diagnosis.

General Principles

The most common swelling in the neck is due to enlarged lymph nodes (fig. 5). Search should be made for a focus of infection, a primary neoplasm or blood dyscrasia causing the lymphadenopathy.

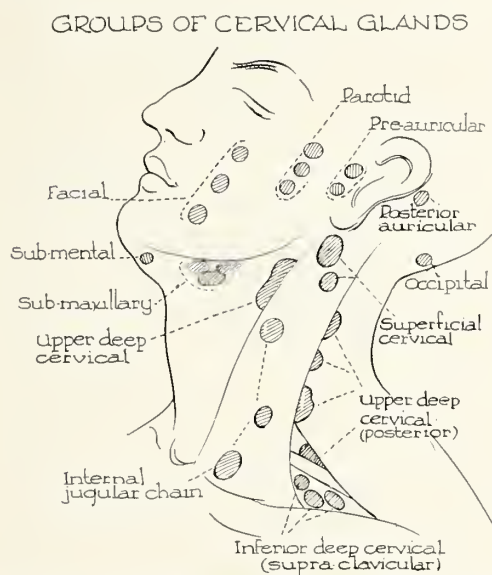


Fig. 5. Location of lymph nodes in neck and face. Enlarged lymph nodes are the commonest swelling in the neck.

Number of swellings: Multiple masses in the neck first suggest lymph node enlargement.² Single masses should cause one to think first of congenital abnormality or primary neoplasm.

Translucency: Bailey states that the only brilliantly transilluminable swelling in the neck is a cystic hygroma.³ This does not occur if blood appears in the hygroma or if infection has occurred.

Compressibility: Vascular swellings are compressible whether neoplastic or not. Cystic hygroma may seem to compress if deep loculi are present.^{4,5} Esophageal and pharyngeal diverticula empty on compression.

Motion: Movement with swallowing indicates a thyroid mass. Motion on protruding tongue suggests a thyroglossal cyst or fistula, which is attached to the base of the tongue.

Pulsation: Pulsation may be transmitted in one direction from underlying arteries which have no connection with the mass. Expansile pulsation originates in one large vessel or many small dilated vessels.

First symptom: If pain was the first symptom noted, inflammation is the most likely cause.² If the swelling was found casually and pain was not experienced at first, a neoplasm should be considered first.

Is a swelling present?: Patients may complain of a generalized or local swelling in the neck, yet the physician can discover no abnormal mass.⁶ In such cases the patient may mistake a normal structure, e.g. the hyoid bone, for a swelling or occasionally may be able to palpate a mass before it is clearly discernible to the examiner. Fear of cancer, goiter or mumps often causes apprehension and self-palpation.

Fixation: Early fixation may imply inflammation.⁷ Malignant tumors are not fixed until infiltration has occurred.

Definition of tumor edges: If the edge of the mass can be sharply defined, a benign neoplasm should be considered.⁸ Poorly defined margins suggest inflammation. Intermediate grades suggest malignant neoplasm.⁹

Injury: Almost every patient can recall some trauma, which often has no relationship to the swelling under consideration.¹⁰ Rapid development of a mass, a short period of stationary course and then a steady regression in size suggest trauma and hemorrhage, with absorption of the hematoma.¹¹

Changes in size: Rapid swelling in hours or days may indicate acute inflammation or hemorrhage into a pre-existing tumor.¹² Slow enlargement over weeks or months should make one think of chronic inflammation, e.g. tuberculous lymphadenitis or neoplasm.¹ Rapid increase in size immediately after eating indicates an esophageal diverticulum. Repeated changes in size may denote acute or chronic infection, as the patient's resistance increases or decreases.¹³

The sudden appearance of multiple masses with fever and malaise may be the first symptom of infectious lymphadenitis due to infectious mononucleosis, measles, scarlet fever, diphtheria, tonsillitis and other upper respiratory diseases.

Tenderness: Tenderness denotes increased tension, usually of inflammatory origin. A rapidly enlarging neoplasm may be tender.

Warmth: Warmth indicates increased vascularity, commonly of inflammatory origin.

Consistency: Marked edema may result from a streptococcal infection.² Hardness may result from a streptococcal or staphylococcal infection or neoplasm.

All parts of a swelling should be palpated because suppuration may occur in the center of the inflamed area, because tumors may degenerate or calcify, and because blood and serum must be differentiated.

Aspiration: Clear, yellow fluid may be aspirated from a cystic hygroma.⁵ Clear, mucoid fluid may be found in a thyroglossal cyst. A branchial cyst contains fluid which grossly appears like pus but

which microscopically contains many cholesterol crystals.¹

Congenital Origin of Masses

Clinical recognition of abnormal swellings due to embryologic variations is often delayed, in part, due to the feeling on the part of the physician that such a diagnosis is difficult and mysterious. That such is not true will be indicated by case histories of each one of the common congenital swellings of the neck, illustrated by a sketch of preoperative condition and a postoperative photograph.

Case Histories

Case 1, G.M., Jr., aged 5:—On Dec. 15, 1945, this small, thin youngster complained of nocturnal dyspnea without evidence of breathlessness during the day. He needed to be propped up on pillows so that he could sleep without difficult breathing. No other symptoms or signs appeared.

Complete physical examination disclosed no abnormalities except a huge left tonsil which extended to the midline and a moderately enlarged right tonsil, both being inflamed subacutely. At the left angle of the jaw, a firm, rounded swelling was easily visible and palpable; it was as large as a flattened orange and nontender. The diagnosis of lymphadenitis secondary to the infected tonsil was made, and the patient sent to Iowa Lutheran Hospital, Des Moines, for roentgen therapy. Within 24 hours the mass had subsided partially, and the boy could sleep lying flat.

Complete laboratory examination revealed a white blood count of 12,000 with neutrophils 58 per cent, eosinophiles 5 per cent, lymphocytes 29 per cent, monocytes 8 per cent, with a normal blood smear, red blood cells 4,540,000, and hemoglobin 12 gm. Urinalyses were consistently normal. Fluoroscopy of heart, lungs, stomach and esophagus was negative. A flat film of the abdomen showed no enlarged liver, spleen or other lesion. A lateral x-ray of the neck disclosed enlarged adenoids. Roentgen examination of the wrists disclosed a definite retardation of bone growth, and that of the chest exhibited no enlarged thymus or other chest lesion.

The cervical nodes remained small for six months, then gradually began to enlarge with the left tonsillar node regaining its previous size. The tonsils remained enlarged, with occasional attacks of acute tonsillitis.

The enlarged left cervical node was removed Dec. 24, 1946. The pathologist's report was, "Sections of the lymph node show hyperplasia of both lymphoid and reticuloendothelial elements. The architecture is preserved. Capsule is thick-

ened and scarred with some fatty infiltration. Areas of recent hemorrhage are seen. There is no evidence of malignancy. Diagnosis: Chronic hyperplastic lymphadenitis."

Tonsillectomy and adenoidectomy were performed after this report was received, and the boy's general health improved. In June 1948 a few small cervical nodes appeared coincident with a pharyngitis. Small nodes were also found in the axillary and inguinal regions and other cervical areas.

During 1949 he had recurrent attacks of appendicitis. On April 5, 1949, I removed a long, injected appendix. The same pathologist reported, "The lumen is very small and the tunica propria mucosae is thickened by hyperplastic lymphoid tissue. The lumen contains a small amount of pus. Diagnosis: Acute catarrhal appendicitis."

The parents were very apprehensive before the node was removed and studied because of suggestions that had been made by physicians concerning Hodgkin's disease or leukemia. The child's lymphoid tissue over-responded to stimuli.

Case 2, F.R., aged 6:—Four years previously a cyst had appeared on his neck slightly to the left of the midline position now occupied. It had been incised, with release of thick, white mucoid material. Intermittent drainage had occurred during the four year period.

An indurated area was found in the midline of the neck anteriorly with a tender, red protruding mass containing a small draining opening. Local heat and antibiotic therapy quickly relieved the tenderness and inflammation.

On June 4, 1946, the thyroglossal fistula was removed under general anesthesia through a transverse incision. It was dissected to the hyoid bone and a segment removed from the latter, then dissected to the base of the tongue against a finger held in the mouth. The mylohyoid muscle was sutured as was the hyoid bone and the skin. There has been no recurrence or drainage in the three year period since excision. Unfortunately the pathologic specimen was mislaid, but the location and course of the fistula was typical.

Figure 6 indicates the typical appearance of a thyroglossal fistula. Figure 7 shows the postoperative appearance, with some keloid formation. There has been no recurrence of drainage or mass.

Case 3, W.K., aged 30:—This male patient complained of a draining sinus on the left side of the neck, which had been present as long as he could remember. It had been treated by local injections and by attempts at surgical closure of the external opening. In recent years he had

noted a bad taste in his mouth which could be reproduced by pressing along the fistular tract in the neck. Occasional attacks of inflammation occurred. His general health had been good except for recurrent brucellosis, which had responded to aureomycin.

oil to pass along the tract and to appear in the throat and on the roentgenogram.

On Feb. 27, 1949, the branchial fistula was removed through two incisions made parallel with the skin folds, i.e. Bailey's technic. Injection of methylene blue and the insertion of a smooth-



Fig. 6. Preoperative appearance of thyroglossal cyst which has been opened inadvertently and drains thereafter.

Complete physical, laboratory and roentgen examination revealed no abnormalities except for a draining sinus which opened low on the left side of the neck, just anterior to the sternomastoid muscle, at a point indicated by figure 8. Pressure along the tract caused yellow pus to appear between the left posterior pillar and left tonsil. Iodized oil was injected into the fistula with difficulty; the addition of air permitted the

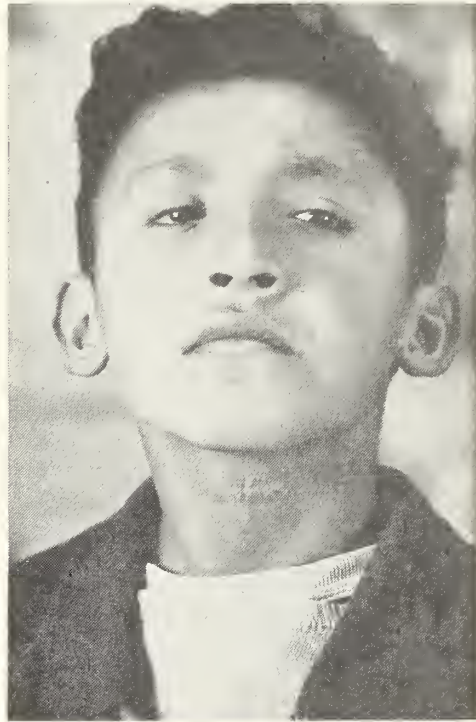


Fig. 7. Postoperative appearance after removal of thyroglossal fistula, including a portion of the hyoid bone.

tipped probe permitted the dissection of the tract up to the upper incision. The fistula was then pulled into the upper incision and the remainder of the dissection made up to the left pharynx.

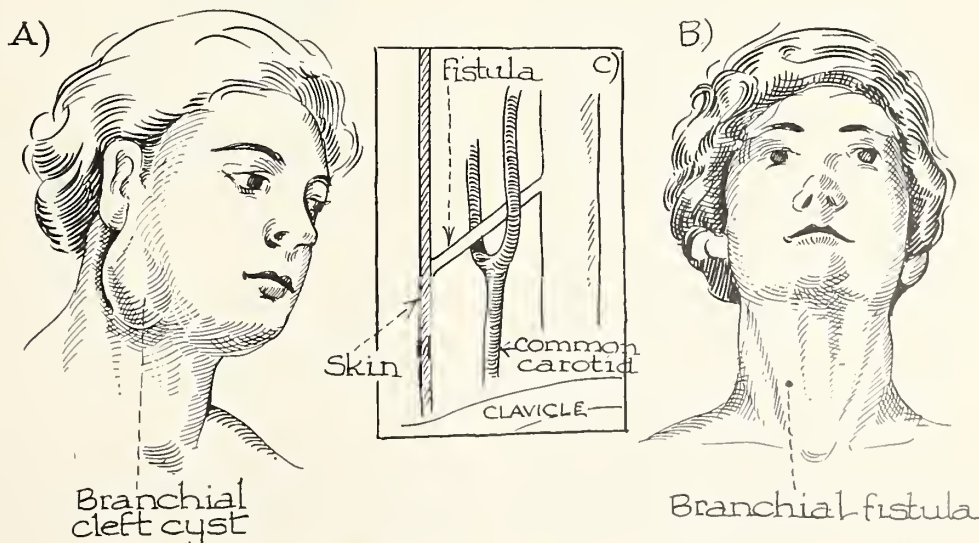


Fig. 8. Branchial cleft cyst or fistula in typical locations.

Oxidized gauze was packed into the tunneled area and the incisions sutured. He ate readily within 24 hours and was dismissed in 48 hours. Healing was uneventful, and there has been no recurrence to date. Figure 9 depicts result.



Fig. 9. Postoperative appearance after complete removal of long branchial fistula on the left from clavicle to pharynx, through two incisions.

The pathologist reported, "Branchial cleft sinus, neck. Sections show a cystic space lined in part by stratified, squamous epithelium and in part by respiratory type epithelium. Beneath this there is a rather thick zone of lymphoid tissue which is collected into well-formed follicles. Outside this there is a zone of dense and hyalinized collagenic connective tissue in which there is a mild, chronic cellulitis. The lumen contains blood, cellular debris and protein precipitate. At one margin the tract is continuous with the skin. There is considerable skeletal muscle about the tract as well as mixed glands, probably salivary."

Case 4, J.S., aged 3:—This male infant had been in good health except for tonsillitis up to August 1948, at which time a mass appeared spontaneously posterior and inferior to the left ear. The mass was the size of a flattened orange, fluctuant, nontender, did not transilluminate and was not an extension of any structure in the area. The nose, throat, ears and mouth were normal. Roentgenograms of the cervical spine, neck and chest revealed no lesion. The cyst gradually increased in size.

On Aug. 23, 1949, it was excised through a curved incision in the hair line over the mastoid area. There were many small cysts containing clear, yellow fluid. The hygroma was adherent to periosteum and muscle. Dissection was carried down to the temporal bone, the facial nerve and along the sternomastoid muscle until all cysts were apparently removed. There was much serous and some bloody drainage.

Repeatedly a few cubic centimeters of serous fluid formed under the incision during the next month. The edges of the incision were spread apart, and a silver nitrate pencil applied to the draining area. This was repeated twice, and there has been no drainage or recurrence in the past year.

The pathologist reported, "Lymphangioma, cystic hygroma. Sections of cystic lesions show many irregular spaces lined by flattened or polygonal cells, which appear to be endothelial in origin. These spaces are surrounded by areolar tissue and skeletal muscle. There is considerable fibrosis and chronic inflammation. Occasional, irregular, thin-walled vascular structures are filled with blood and areas of hemorrhage. Several areas of chronic inflammation contain 'cholesterol clefts,' large phagocytal 'foamcells' and foreign body giant cells."

Figure 10 indicates the preoperative and figure 11 the postoperative appearances.



Fig. 10. Appearance of a cystic hygroma in posterior triangle of the neck.

Case 5, R.P.B., aged 64:—For 10 years the patient had noted a mass in the left side of his neck which did not remain constant in size. During the last 10 days he had experienced pain in the left side of the mouth and neck.

The submaxillary gland was swollen and tender on palpation. The left floor of the mouth was superficially edematous and deeply indurate, continuous with the mass in the neck. The orifice of Wharton's duct (submaxillary salivary duct) exuded purulent drainage.

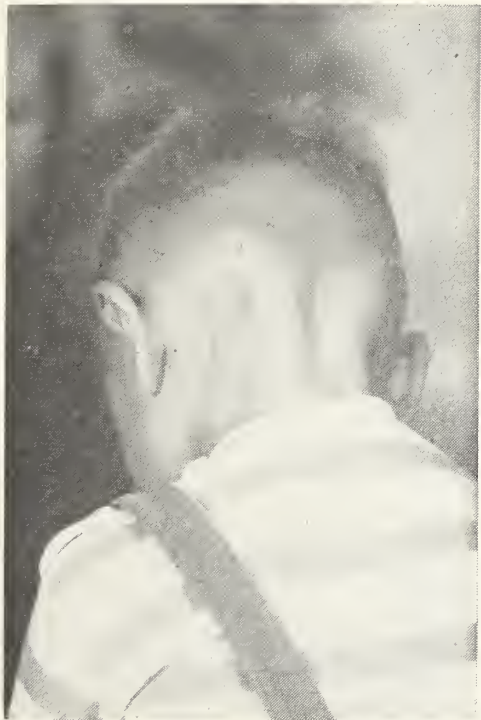


Fig. 11. Postoperative appearance after complete removal of a cystic hygroma in the posterior triangle.

With local infiltration anesthesia, the duct was incised and a long, oval salivary stone removed together with purulent drainage. The stone measured 2.5 cm. by 0.5 cm. There was rapid subsidence of swelling and pain, without recurrence since the incision Feb. 12, 1946.

Bailey states, "As the submaxillary gland is composed of two portions, a larger cervical portion beneath the jaw and a small buccal portion above the mylohyoid muscle, there can be but one efficient method of palpating the whole gland, bimanually. *If there are continuous buccal and cervical swellings, this is good evidence that the swelling in question is an enlarged submaxillary salivary gland.*"

Conclusions

1. Masses in the neck can usually be differentiated by careful examination, beginning with physical and proceeding through laboratory to histologic diagnosis.

2. Medical or surgical management becomes obvious as the diagnosis is confirmed.

3. A number of helpful pointers assembled from the literature are given.

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STERILIZATION OF PATIENTS DISCHARGED FROM FOUR IOWA STATE HOSPITALS IN 1947

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The sterilization of psychotic patients has been advocated to prevent the transmission of their disease and to protect possible children from being brought up in the undesirable surroundings which a psychotic patient inevitably will give. To make such protection possible, sterilization laws have been passed which are now operative in 27 states. These have been applied to varying degrees.¹ In 1947 the number of persons sterilized under these laws because of psychosis was largest in Virginia, with 1.7 per 100,000 population. For Iowa the corresponding rate was 1.4, and the average for 27 states having sterilization laws was 0.6.

Obviously, not all psychotic patients are appropriate for sterilization. Some have passed the menopause; others are in such mental or physical condition that exposure to parenthood is improbable. For some there is no evidence that the psychosis is hereditary. To determine what proportion of those leaving state hospitals fall into these various groups, statistics have been compiled for all the patients discharged*⁵ with a psy-

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*⁵For the Mount Pleasant State Hospital all psychotic cases of bodily separation (parole or immediate discharge) were included. For Cherokee, Clarinda and Independence State Hospitals, psychotic cases discharged from the books of the hospital were used.

chosis in 1947 from four of Iowa's State Hospitals for mental disease. The results are given in the table. While these must of necessity depend largely on individual opinion, the information in the records and the authors' knowledge of the patients were both drawn upon to make the classification as accurate as possible.

*Sterilizations of Patients
Discharged from Four Iowa State Hospitals in 1947.*

	Number	Per Cent
Total discharged	522	
Not appropriate for sterilization because of shortness of stay, transfer, escape, etc.....	37	
Subject to consideration of sterilization.....	485	100
Sterilized	30	6
Considered not apt to become parent because of mental condition, menopause, sterilized husband or menopause of wife.....	168	35
No evidence that disease was hereditary.....	127	26
Psychosis too mild to indicate sterilization.....	18	4
Consent could not be secured.....	27	6
No reason known for nonsterilization, other than limitation of nursing and social service	115	24

It will be seen that about 7 per cent of the patients were not subject to sterilization for administrative reasons. Of the remainder, 65 per cent were excluded from consideration of the operation by presumed sterility or by the mildness or the nonhereditary nature of the psychosis. For 6 per cent the consent of patient or family could not be secured, and for 24 per cent no assignable reason was found in the records for the nonsterilization. The limited amount of available time of the staff was known to be an important factor. Those given protection from parenthood were 6 per cent of those for whom the operation was administratively possible. When the sterile, the mild and the nonhereditary cases are excluded, the proportion of the sterilized rises to 17 per cent. For the individual hospitals this proportion was 1.5, 26 and 50 per cent.

These results may be compared with those in a school for the feeble-minded in California. Butler and Gamble² found that in 1944 96.5 per cent of the cases discharged for whom the operation was administratively possible and appropriate had been sterilized. The difference between mental disease and mental deficiency are considered. Evidence of direct heredity of the latter is much greater, and there is not associated with it the hope of recovery which many forms of psychosis bring. Limitation of the nursing and social service staffs has also been an important factor in reducing the number of operations possible among the cases here reviewed.

Summary

Among the cases discharged with a psychosis from four Iowa state hospitals in 1947, 65 per cent were found to be inappropriate for sterilization because of infertility or the mildness or nonhereditary nature of the psychosis. Of the remainder, 17 per cent were surgically protected from parenthood.

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College of Medicine State University of Iowa CLINICOPATHOLOGIC CONFERENCE April 12, 1950

Summary of Clinical Record

This 6 weeks old male infant was admitted with complaints of coughing, vomiting and failure to gain weight. A 2 year old sibling was living and well. There was no family history of infectious or hereditary disease. The infant was the result of a full term, uneventful pregnancy. He was born by Caesarean section because the first child was born in this manner. The birth weight was 3,650 gm. The neonatal period was normal.

At two weeks of age a cough occurred which was described as nonproductive and paroxysmal in type. It was of sufficient severity at times to cause cyanosis. No signs of a respiratory infection were present. No exposure to pertussis was known. At approximately this same time projectile vomiting occurred, which on some occasions followed paroxysms of coughing. The infant had a good appetite and was fed adequately. The caloric value of his acidified formula at the time of admission was 150 calories per Kg. In spite of this, the weight on admission was 250 gm. below his birth weight. The mother stated that the infant had three or four bowel movements a day. She had not considered them abnormal in appearance.

The physical examination revealed a markedly undernourished infant. The pharynx was mildly injected, and a few moist rales were heard in the base of the left lung. The infant was alert. There was a dry cough but no fever. The hemoglobin was 12 gm. per 100 ml.; the red blood cell count 4,236,000 per cu. mm.; and the white blood cell count 21,800. The differential count revealed 60 per cent lymphocytes. The urine was normal.

During the infant's first hospital days examinations were done in an effort to establish a diagnosis. The throat swab was reported to result in a growth of hemolytic *Staphylococcus aureus*. The roentgenogram of the chest showed segmental atelectasis in the right lower lobe with linear atelectasis in the left base. The fecal fat was reported to be 11.8 per cent of the wet weight of the stool. The test using x-ray film was done

to determine the amount of stool trypsin. Gelatin digestion occurred at all dilutions.

The infant's clinical signs of respiratory embarrassment increased. He was placed in an oxygen box, and penicillin therapy was started intramuscularly and by aerosol. A fluoroscopic examination of the chest revealed an area of pneumonitis with atelectasis in the base of the right lung posteriorly. There was no evidence of tracheal or esophageal compression. A bronchoscopic examination was done, but due to the small size of the bronchial tree, only the upper portion of the bronchi could be examined. No diagnostic findings were observed during the procedure.

The infant's clinical course was one of slow improvement. The physical findings sufficiently improved in 20 days so the infant no longer needed oxygen therapy. His cough persisted, and moist rales were heard over the base of both lungs. Serial roentgenograms of the chest did not suggest improvement. Scattered areas of emphysema persisted, and findings suggestive of bronchiectasis appeared.

At no time was fever present. With careful feeding his vomiting ceased. It was noted that his stools, which occurred two to three times a day, were most offensive in odor. He gained in weight from 3.5 to 4.2 Kg. during the 35 days in the hospital.

Against medical advice the parents removed the infant from the hospital. The infant was returned for readmission two months later. The mother stated that until one week before readmission the infant had been essentially the same as at the time of his removal from this hospital. During the preceding week he had had no appetite and had lost weight. His weight at the time of readmission was 3.9 Kg. The day before readmission he had an acute onset of cyanosis. He was taken to the local hospital where he received oxygen and supportive therapy. It was necessary to administer oxygen during transportation to this hospital.

The infant's malnutrition was more pronounced. Moist rales were heard over the entire thorax. Some increase in resonance, suggesting emphysema, was noted.

No fever was present. The hemoglobin was 9.5 gm. per 100 ml.; the red cell count 4,120,000 per cu. mm.; and the white blood cell count 21,300. The differential count revealed 81 per cent polymorphonuclear leukocytes. The portable roentgenogram was read as indeterminate. The examination of the stools on three different days showed no digestion of gelatin in any dilution. A throat culture was reported to result in a

growth of *Pseudomonas aeruginosa*. The infant was too ill for further diagnostic examinations at this time.

Medical care, including tube feedings of an optimal diet, blood transfusions, oxygen therapy, penicillin and aureomycin therapy, did not halt the course of the disease. He had increasingly severe dyspnea with physical findings suggesting respiratory obstruction. The infant died 10 days after his readmission.

Dr. John C. MacQueen (Pediatrics): The 6 weeks old infant to be discussed was admitted to the Pediatric Service with three symptoms: vomiting, failure to gain weight and coughing. Two of these symptoms are common among the children admitted to our service. Vomiting and failure to gain weight are always of importance, but frequently they are rather nonspecific and not diagnostic. The symptom of coughing in an infant of this age is of considerable importance. It was of more importance because the parents were very sure that this cough was not related to a respiratory infection. In evaluating the history, it was difficult to determine just how much vomiting the child had done that had not coincided with an episode of coughing. It should be noted that the baby's weight loss was severe. His weight at 6 weeks of age was considerably below his birth weight.

At the time of admission the physical findings were minimal. Moist rales were described to be present in the base of the left chest. The roentgenogram of the chest, taken to evaluate the clinical finding, showed linear atelectasis. The infant's progressively severe cough and physical findings indicating respiratory difficulty justified the fluoroscopic and bronchoscopic examinations. No explanation for the infant's cough was found by this series of procedures.

There are a few items recorded in the protocol that should briefly be discussed. The amount of fecal fat present at the time of the first stool examination was within the limits of normal values. The examination for stool trypsin by the use of x-ray film is a standard procedure. If trypsin is present in the stool, it digests the gelatin present on the x-ray film. At the time of the first stool examination the gelatin was digested. This would suggest the normal secretion of trypsin by the pancreas.

It should be re-emphasized that the infant had no fever during his hospital stay. His course was one of slow improvement. The parents were not satisfied with the infant's clinical course and therefore, against medical advice, removed him from the hospital.

The infant had two rather uneventful months at home. During the week prior to readmission the infant was ill. The day before readmission he had the onset of the acute symptoms described in the protocol. At the time of readmission the infant was severely malnourished, and the physical findings related to the examination of the chest had greatly increased in severity. The infant was critically ill at the time of readmission, and few examinations were done. It is of importance to note that the three examinations done to determine stool trypsin resulted in no digestion of gelatin.

In spite of energetic supportive therapy, this infant's course was progressively unfavorable. He expired 10 days after his second admission to the hospital.

Student: We considered that a celiac-like syndrome was probably the best explanation for this infant's trouble, and of the celiac-like syndromes probably fibrocystic disease of the pancreas, for the following reasons: (1) the infant had had a pronounced weight loss, a failure to gain weight at all; (2) the foul-smelling stools; (3) the absence of tryptic activity on the infant's second admission; and (4) evidence of cyanosis and upper respiratory distress which culminated in the pneumonitis, atelectasis and bronchiectasis. So, we feel that fibrocystic disease of the pancreas would be the most likely choice. Of course, idiopathic steatorrhea and starch intolerance should be considered too. I think it can be said that infants rarely die from those two conditions, though. Fibrocystic disease of the pancreas would be our first and major choice. Other things which were mentioned in the differential diagnosis would be a tracheo-esophageal fistula, chronic intestinal obstruction and acute sepsis, but the majority of opinion considered that fibrocystic disease of the pancreas was by far the best bet.

Dr. MacQueen: Because the baby was admitted with symptoms, not a diagnosis, we should perhaps list a few of the clinical conditions that might explain these symptoms. What would be included on your list for the differential diagnosis of a 6 weeks old infant with a persistent cough? How long would that list be?

Student: First, we'd list an upper respiratory infection, and that was ruled out by absence of any contact with pertussis. There was no history of pertussis or contact.

Dr. MacQueen: What about the possibility of an unresolved congenital atelectasis?

Student: Congenital atelectasis, very definitely; and I think fibrocystic disease of the pancreas

because the respiratory symptoms go along very definitely with that syndrome.

Dr. MacQueen: You are rightly persistent in your belief as to the diagnosis in this case, but there are other things that should be considered. For instance, aspiration pneumonia is common in this age group. This may be caused by the aspiration of a portion of a feeding, or of mucus, of some type of talc or of oily material. The possibility of a foreign body was considered in this case.

Student: If there were a history of meconium ileus, that would have, in our opinion, further substantiated the diagnosis. Was there any such suggestion?

Dr. MacQueen: There was no history of meconium ileus. I think it is interesting that you did mention the possibility of a tracheo-esophageal fistula. It certainly would be unusual, but it is within the realm of possibility.

Dr. Eugene F. Van Epps (Radiology): This child had many x-ray examinations of the chest. The first film shown today demonstrates an area of atelectasis with pneumonitis in the right base, small areas of linear atelectasis and hyperventilation of both lung fields. The hyperventilation deserves emphasis and will be discussed later. The anterior ends of all of the ribs show flaring, suggestive but not diagnostic of rickets. A lateral view of the chest also demonstrates the area of atelectasis in the right base posteriorly and also the hyperventilation as manifested by depression of the leaves of the diaphragm. There is no evidence of tracheal compression.

The patient was next fluoroscoped. Again there was demonstrated depression of the diaphragm, which moved only slightly on respiration, poor exchange of air and pulmonary emphysema. Barium swallow done at the same time showed no evidence of esophageal atresia or fistular communication between the esophagus and trachea. No compression of the trachea was found and no evidence seen to indicate the presence of aberrant vascular structures. We therefore felt that such causes for the patient's complaints could be definitely ruled out.

Subsequent examinations revealed essentially the same findings, although there was clearing of an area of atelectasis or pneumonitis at one time, only to be found again in other areas at later examinations. On one examination there was an area of infiltration in the right base suggestive of bronchiectasis, but the findings were not present in an examination a week later.

The presence of pulmonary emphysema with bulging of the intercostal spaces and flattening of

the leaves of the diaphragm, the presence of rounded or linear increases in density scattered throughout the lung fields indicating small areas of bronchial plugging with atelectasis, or the presence of pneumonitis and larger areas of atelectasis, all without evidence of tracheal compression, suggest to the radiologist that fibrocystic disease of the pancreas may be present to account for the findings.

The earliest finding, radiographically, is the hyperventilation or emphysema without increased markings and without evidence of hilar enlargement. When the process is more advanced, the changes due to infection play a large role in the production of the lesions mentioned above. It should be emphasized that rapid changes in the radiographic picture occur in these individuals even without specific therapy directed to the lungs.

Dr. Bruce Marshall (Pediatrics): What do you mean, Dr. Van Epps, by vascular markings? Do you mean an increase in the blood supply?

Dr. Van Epps: In some types of congenital heart disease there is a shunt which causes increased vascular supply to the lung, and this is manifested by increased vascular shadows. However, the term *increased bronchovascular markings* used in our department indicates not a shunt but increased markings caused both by the bronchi and the vascular markings. The infection causes a thickening of the peribronchiolar structures which is manifest on the films, and at the same time it causes increased vascularity as well. On infrequent occasions we see an optical cross-section of a bronchus in such conditions and can demonstrate thickening of the bronchial wall. In general, then, we can say that increased bronchovascular markings are secondary to infection and consist not of a vascular shunt but of a combination of thickening of the bronchial walls and increased vascularity, both due to infection.

Dr. David C. Funk (Medicine): Was this child on a skim milk formula and, if so, what would produce the high fat content of the stools?

Dr. MacQueen: We very infrequently measure fecal fat, unless that child's diet for a few days preceding that time contained no fat. I would assume that this record was made at the time of his admission when he was still on a diet containing considerable fat.

Clinical Diagnosis

Fibrocystic disease of pancreas.

Necropsy Diagnosis

The principal findings were in the pancreas and lungs. The pancreas was normal in size and shape. There was increased perilobular fibrosis with distortion of the architecture. The ducts

were dilated, and a few were cystic. Inspissated secretory material was present in them.

The bronchi and bronchioles were distended with creamy purulent material. There was hyperplasia of the columnar epithelium with several foci of squamous metaplasia. The lung parenchyma, particularly about the bronchioles, revealed acute and chronic pneumonitis.

Necropsy Diagnoses:

Fibrocystic disease of pancreas.

Suppurative tubular bronchiectasis with squamous metaplasia.

Lobular pneumonia.

Dr. John R. Carter (Pathology): At the time of autopsy this child was well developed and well hydrated, and on opening the abdominal cavity, about 50 cc. of clear fluid was found. Perhaps the most striking thing in the abdominal cavity was the segmental distention of both the large and small bowels. The trachea was of interest in that adhering closely to the mucosal surface was thick tenacious mucopurulent material. This could be found throughout the entire bronchial tree, even out to the terminal bronchioles. The bronchioles as well as the bronchi were dilated. I should mention first, though, that the trachea was not obstructed by this material nor were the main stem bronchi, but the terminal bronchioles and several of the secondary bronchioles were definitely and completely obstructed by thick tenacious mucoid yellowish material. There were patchy areas of atelectasis, emphysema and pneumonitis scattered throughout both lungs. Grossly the pancreas was of normal size and shape, and on cutting through it, it did not seem to cut with any increased resistance or grittiness. It was noticed by the prosector that there were tiny cystic areas. There was atresia of the cystic duct, but the hepatic ducts were free. The gallbladder was patent and contained mucoid material but no bile. With regard to the rickets that Dr. Van Epps brought up, we have many sections of bone marrow and bone, but unfortunately the prosector did not take any sections of the costochondral junctions. From the material that we have available we cannot say whether or not this child had rickets, either incipient, well developed or otherwise. I might add that the liver in this particular case was normal, as it frequently is in children in this age group, that is, under the age of 1, in contrast to older children with this disease in whom fatty metamorphosis is often present. The fatty metamorphosis may be on the basis of mobilization of fat as a result of starvation or it may be due to the disease process itself. The gastrointestinal tract except for the distention of

the gut was virtually normal. Careful examination of the mucosa was made, and that appeared to be normal. At the time of autopsy alpha-hemolytic Streptococci were grown in pure culture from the heart's blood, and from the mucous material in the bronchi *Pseudomonas aeruginosa* was cultured.

Dr. James F. Embick (Internal Medicine): Were there any changes in any of the other glandular areas?

Dr. Carter: We examined very carefully, Dr. Embick, the gallbladder and all the glands of which we had sections. Unfortunately no sections were taken of the salivary glands, but as you well know, in some of the cases the salivary glands are involved in this process, both by way of squamous metaplasia and by the presence of thick mucoid material. Grossly, the salivary glands appeared to be normal. The gastrointestinal glands, the glands in the esophagus, the mucosa of the gallbladder, the hepatic ducts, common ducts and so forth appeared to be virtually normal. That has been the experience of most people, I think. In the older age group you tend to see more histologic changes in other glands. I might add too that the contents of the duodenum and of the entire gastrointestinal tract, in contrast to some cases that are described, did not contain thick tenacious material at the time of autopsy at any rate. There wasn't much fecal material in the gastrointestinal tract; what was present had a rather fetid odor and was rather soft and bulky and of a light brown color.

Dr. Richard D. Eckhardt (Internal Medicine): How does this pathology differ in the lungs from that seen in vitamin A deficiency, particularly in the bronchioles?

Dr. Carter: As far as the bronchiolar epithelium, none. Now, do you mean with regard to the squamous metaplasia? No difference can be determined; that's true also for the experimental vitamin A deficiencies, for the extensive squamous metaplasia that you get in virus pneumonitis, for example, and bronchiectasis subsequent to virus pneumonitis. It all looks about the same; so far as the histologic structure is concerned, we can tell no difference in it. The only thing I might add in that regard is that in most cases of the ordinary suppurative type of bronchiectasis that one sees in adults the degree of squamous metaplasia is rarely, if ever, as marked as is seen in this type of case and in cases of bronchiectasis secondary to virus pneumonitis or atypical primary pneumonia. In talking to Dr. Jackson yesterday, the question came up about the relationship of vitamin A deficiency

to this squamous metaplasia. I think it should be emphasized that although at one time there was a theory, to which some people still hold, that the disease process here is fundamentally one of vitamin A deficiency, and that the obstructive lesions are due to the plugging-up of the duct system by squamous epithelial cells, this has pretty much gone by the board. That explanation probably is not valid, at least in the majority of cases. But it is definitely true that experimentally and clinically it can be shown that there is, in all probability at any rate, a relationship between vitamin A deficiency and squamous metaplasia, which is not saying that this disease is due to vitamin A deficiency or that the obstructive lesions are due to the piling-up of squamous epithelial cells.

Dr. MacQueen: As we discuss fibrocystic disease of the pancreas, I believe that we will find that there are more questions than there are answers. "This is partially explained by the fact that the disease entity, and I believe that it is an entity, is relatively new. A good part of the time and effort that has been spent with this disease has as yet been spent in the organization of basic information concerning incidence, the genetic factor, the laboratory identification, the optimal treatment and the clinical symptoms. We are just now coming to the time when more people are applying more time and thought to the possible cause of the disease. It is the purpose of the remainder of this period to discuss this aspect of the disease.

Few good physiologists have worked with the disease. We have not as yet approached the problem by attempting to determine clinically the variations from normal physiology present in these infants. Dr. Horvath, would you please outline for us the problem from the physiologist's point of view?

Dr. Steven M. Horvath (Physiology): We may put the statement the other way: No physiologist has worked with the disease. I think the most interesting part of the disease entity is related to the discussion of two possibilities; namely, is this a disease that is related simply to an abnormality within the pancreas or is it a disease which involves other organs having a similar type of thick viscid secretion? A further question arises as to whether or not this is related to an imbalance in secretion of pancreatic juice; and in those cases having the disease for over a year, in which you have an involvement of both the intestinal glands and the gallbladder and the salivary glands, as to whether or not this does not involve the secretion of all of the enzymes of all of these glands. The second possibility has to do with an

imbalance in autonomic function, that is, of the autonomic nervous system.

Now, if you recall, in the basic physiology of the secretion of the enzymes from the pancreas, there are primarily two major types of secretion. One is a thick viscid type which is produced by stimulation of the vagus nerve, and the other is a thin watery type which is related to the hormonal stimulus of secretin. It has been postulated that one of the reasons for the elaboration of this thin watery secretion from the pancreas is to move forward the thick viscid secretions which are being produced as a consequence of stimulation over the vagus or the hormone which is supposed to be related to zymogen liberation. There is an attractive bit of evidence that probably secretin is involved in fibrocystic disease of the pancreas. Secretin is involved in the elaboration of bile; it is involved in the elaboration of the intestinal juices, succus entericus; and it is also involved in the elaboration of this thin watery secretion from the pancreas. Now all these glands do get involved later in the disease process. If it is true that this disease is related to a deficiency in the elaboration of a hormone, secretin, it would be theoretically possible to measure such an elaboration or a failure of such an elaboration. The only work that I know of has been a vague statement to the effect that in one case of fibrocystic disease of the pancreas, a young child, no secretin was obtainable from the duodenal tissue. This was autopsy material. However, secretin was always obtained from other individuals between the ages of 2 and 73 years of age. It apparently is not obtained in very great amounts from young children, that is newborn or prenatal. If you pool several samples, however, sufficient material can be obtained to give a test response. Therefore it is possible that this condition may be related to a disturbance in the elaboration of secretin.

There is another possibility that is related to the elaboration of thin watery juice from the pancreas, this being a failure of the liberation of bicarbonate from the pancreatic tissue. This is purely speculative. There is no evidence available for it at all, but it is interesting that in many of the disorders in which you find an abnormality of the ionic balances of the blood you do find some abnormalities occurring in the pancreas. Very frequently disorders similar to fibrocystic disease of the pancreas are found in individuals who have been suffering from severe vomiting and from dehydration and malnutrition. In all these cases you find some ionic imbalance, and probably this may be related indirectly to such a

difficulty in the elaboration of bicarbonate solutions via the pancreas. Continuing this thought, the possibility that the elaboration of the thin watery secretion of the pancreas might be due to a deficiency in the carbonic anhydrase in the pancreas itself should be considered. Of course, it would have to be experimentally verified. Another aspect which might have something to do with this is the relationship of the secretion of hydrochloric acid from gastric glands and its relationship as the potential stimulus to the duodenal mucosa. In many cases where you have deficiency in pancreatic secretions, there is an excessive secretion of hydrochloride. Now there may be some vague correlation here, but I'm not at all sure. As far as I know there is practically no good evidence for any of these viewpoints. Unfortunately, none of these hypotheses satisfy the fact that you see evidences of disturbances, that is, other evidence of this disease in other organs; namely the respiratory tract, the salivary glands and so forth. It is also interesting to note that stimulation of some of the parasympathetic fibers to other glands, instead of producing a thick viscous solution as the pancreas, brings forth a thin, very fluid secretion. So, this also does not satisfy the problem. There is some evidence that there might be an autonomic imbalance which may be relieved by proper interruption of the autonomic system by the use of blocking agents, such as procaine blocks, which help some of these patients. The question, of course, being whether or not this is of temporary or permanent benefit. The main point is to decide if fibrocystic disease of the pancreas is a disease limited to and consequent to dysfunction of this digestive gland or, as I am inclined to believe, a much more generalized disorder which occurs first in the pancreas.

Dr. MacQueen: As was intimated a few weeks ago, sympathetic blocks have been used. Varying reports of success and failure have been received. The matter is evidently controversial. Dr. Meyers may have some remarks to make concerning the pancreas and its neurologic aspects.

Dr. Russell Meyers (Neurosurgery): My remarks will be confined to reports of what has appeared in the literature. It is doubtful whether they will contribute anything to our understanding of the etiology and pathology of fibrocystic disease of the pancreas. They may contribute something to our comprehension of one aspect of the complex pathogenesis of the disorder.

Dr. William Ayres of Tulane University and the Ochsner Clinic reported in a paper entitled "The Treatment of Fibrocystic Disease of the Pancreas and Associated Bronchial Lesions by

Splanchnicectomy" rather conspicuous success in the management of 5 cases. The nutritional status of his patients was in some respects as poor as that of the patient now under consideration. Treatment consisted in performing splanchnicectomy on the right side and resecting the ipsilateral ninth and tenth paravertebral sympathetic ganglia. Dr. Ayres' reports were extremely hopeful. He was of the opinion that pancreatic function and digestion had been definitely ameliorated and nutrition correspondingly improved. The pulmonary symptoms cleared up "almost miraculously." He therefore postulated that a partial explanation of fibrocystic disease would ultimately be expressed in reflexogenic terms. He did not attempt to postulate the intermediary physiologic events but confined himself to the broad concept of reflex disorder of the lungs secondary to a primary disorder of the pancreas. I stand in no position to be critical of this concept, much less of the case reports that were made from the Ochsner Clinic. The facts, if verifiable, are in themselves important; the formulation of a substantial theory may or may not have been accomplished.

There is but one other point worthy of comment; namely, that our concepts of the innervation of the pancreas appear to be undergoing considerable change. Aside from the suggestions arising from Dr. Ayres' studies, symptomatic relief has been obtained by DeTakats and others by interrupting the splanchnic nerves and ninth and tenth paravertebral ganglia of the right side in painful chronic pancreatitis.

Dr. Nathan A. Womack (Surgery): Have there been any lysozyme studies done in this disease?

Dr. MacQueen: I am familiar with no such studies. I think I've read a good part of the literature concerning the matter, and I'm quite sure such studies have not been done.

Dr. Womack: Theoretically this whole picture could be based on an absence, plus secretion.

Dr. Embick: In the patients who had their pancreas removed for one thing or another do you find difficulties in digesting fat such as you find in fibrocystic disease?

Dr. Womack: The long-term studies that have been made on the metabolism of fat following total pancreatectomy show that within the first several weeks there is a considerable amount of free fat in the stools, but as time goes on the stool becomes normal in so far as the fat is concerned. Apparently, therefore, the body can handle free fats without the necessity of the pancreas being present. The same observations hold relative to protein digestion. We had demonstrated before us here at this conference some months

ago an infant a few months older than this one who had practically all of her pancreas removed. What was left was not enough to be of considerable help in external secretion, and yet there was no great metabolic disorder. This is in keeping with the observation on adults. I would raise the question again that was raised when we discussed the two patients with fibrocystic disease a few days ago, that it may be that we are focusing our attention on the pancreas when the lesion may be elsewhere and the pancreas secondarily involved just as the lung changes are secondary. It may not be the fibrocystic disease of the pancreas but a much more generalized disorder that is important, and I think Dr. Horvath referred to that very definitely in his discussion.

Dr. MacQueen: Dr. Embick wondered about the matter of fecal fat. Dr. Stearns, could you summarize in three sentences why 11.8 is normal when Dr. Embick's book says it isn't?

Dr. Genevieve Stearns (Pediatrics): In our laboratory we run fecal fat on the fresh stool usually. In most children it will run under 10 per cent of the wet weight of the stool. You aren't going to argue greatly over 10 per cent as a minimum and 11.8 as a maximum. If you are running a fecal fat on dry weight and the child gets the usual mixture of fat, you would have a still higher percentage that would have to be considered normal in small infants.

Dr. Embick: I was under the impression, Dr. Stearns, that it was around 2½ to 5 per cent of the wet weight.

Dr. Stearns: Small babies excrete larger amounts of fat; babies who are otherwise normal have not attained their full ability to utilize fat under 3 to 4 months of age, so that in a young infant one cannot draw a rigid line between normal and abnormal excretion.

Dr. MacQueen: Actually, with the exception of the undesirable fact of the excretion of fat carrying out calcium as well, it isn't a determination upon which we rely too much to make the diagnosis or to evaluate the course of the disease.

Dr. Philip C. Jeans (Pediatrics): There are several things that might be mentioned. One is that in one of the early examinations the stool showed tryptic activity and the later one did not. That would indicate the presence of activity early. That is not unusual; very often one gets viscosity of the secretion first and at the same time still considerable tryptic activity. Then subsequently the tryptic activity disappears. It seems to me there's nothing inconsistent in that progression. Just as Dr. Womack says, it is the current con-

STATE DEPARTMENT OF HEALTH



PARATHION*

Information for the Physician

Parathion, one of the newer organic insecticides, was used in Iowa last year, particularly by fruit growers. The indications are that this material will be used again during the current growing season, possibly to a greater extent. This material is extremely toxic if inhaled, swallowed or absorbed through the skin. The following information or symptoms and treatment have been furnished by one of the manufacturers of this insecticide:

Parathion inactivates the cholinesterase enzymes of the blood and tissues, and therefore the signs and symptoms resulting from excessive absorption, are primarily those of marked parasympathetic stimulation. Hyperhidrosis, miosis, lacrimation and salivation also may be noted. If the patient has already taken atropine, the physician should administer additional doses of grains 1/60 to 1/30 (1 or 2 mg.) of atropine every hour up to 10 or 20 mg. in a day if necessary to control the respiratory symptoms and keep the patient fully atropinized. The intravenous route is the most rapid. It will be noted that the dosage of atropine here is in excess of amounts conventionally employed but within safe limits. For mild poisoning this treatment alone is sufficient.

Do not give morphine. If pulmonary secretions have accumulated before atropine has become effective, the patient must be placed upside down to cough out mucus. The parasympathetic effect on the heart and lungs is blocked by atropine. Weakness and muscular twitching are not controlled by this antidote. Even with very serious poisoning, atropine can completely protect the airway, but muscular weakness may become so extreme that artificial respiration is required. Insert a tracheal tube. Suck mucus from bronchi with a catheter. Empty distended stomach with Levine tube. Complete recovery may be expected even after very severe acute poisoning and many

hours of artificial respiration. Administration of oxygen is indicated provided that adequate attention to the airway has been given. The acute emergency lasts 24 to 48 hours; patient must be watched continuously during this interval. Following exposure heavy enough to produce symptoms, further organic phosphate insecticide exposure should be avoided. The patient remains susceptible to relatively small exposures of parathion until regeneration of blood and tissue cholinesterase is nearly complete. Other organic phosphate insecticides also inactivate cholinesterase. Persons exposed to these become susceptible to parathion and vice versa.

SMALLPOX AGAIN?

After two years without a case of smallpox in Iowa we have a tendency to become complacent and to forget that it is still necessary to vaccinate and revaccinate to keep the disease under control.

Stories of smallpox in India, Chile and Scotland leave us with an unruffled feeling of "It can't happen here." Yet, during the month of April 2 cases of smallpox were reported by physicians in one of our Missouri border counties and another by a Missouri physician in an adjacent Missouri county. The 3 cases gave a typical clinical history and picture of mild smallpox. In each instance the course of the disease may have been kept mild by some remaining protection from successful smallpox vaccinations about 10 years ago.

The county in which the cases have occurred is similar to many of our other Iowa counties with large numbers of people unprotected. Surveys of children in the consolidated school of the county where smallpox vaccination clinics were held showed only 30 to 50 per cent of the children had ever been vaccinated. Children in one room schools not reached by the vaccination program of the larger schools had even smaller percentages of protected children. Few adults have had more than one smallpox vaccination. Many like the two cases must be considered susceptible due either to partial or complete loss of protection.

*From article published by Dr. D. O. Hamblin of the American Cyanamid Company, 30 Rockefeller Plaza, New York 20, N. Y.

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New General Manager

The JOURNAL wishes to extend a welcome to Dr. Ransom D. Bernard, who assumes his new duties June 1 as general manager of the State Society. Dr. Bernard has long been active in county and state medical affairs and has a wide background of organizational policies and activities. He served as a member of the Legislative Committee for ten years and as chairman for three years; he was president of the State Society in 1945-1946; and was a member of the Committee on Medical Service and Public Relations following that. He has been an alternate delegate and delegate to the American Medical Association and has a wide acquaintanceship with doctors over the United States.

We feel confident that Dr. Bernard's acceptance of this new post will usher in a new stage of Society activity and bring many benefits not only to the medical profession but to the public as well, in helping bring about a greater coordination of medical services between the medical profession and many lay organizations.

Centennial Meeting

The one hundredth meeting of the Iowa State Medical Society, held at the site of the first meeting, Burlington, Iowa, April 23-26, 1950, appropriately fulfilled all of the requirements of a centennial session. Each member in attendance was impressed with the efforts of the local Society members to assure a successful meeting. A special vote of thanks is tendered to the committee for its splendid work. From a numerical stand-

point, the registration included 561 members, 113 guests, 110 exhibitors and 134 woman's auxiliary members for a total of 918.

The JOURNAL desires to express the appreciation of the Society to the Program Committee for the excellence of the papers presented. As is customary, these papers will appear in succeeding issues of the JOURNAL. Among the transactions of the House of Delegates, the Constitution was revised and a Grievance Committee was established. The complete proceedings of the House will appear in the official July issue. Dr. Donald Conzett of Dubuque was designated president-elect, and it was announced that Sioux City would be the location for the next annual meeting.

The technical exhibits contributed as usual to the success of the program. The scientific exhibits reflected the hours of work expended in their preparation, and the contributors were rewarded by good attendance of the members.

As indicated by Dr. Bierring in his address at the centennial dinner, the Iowa doctor has met every challenge in the changing social order. After one hundred years of medicine in Iowa we look ahead to the next centennial. With fraternity of spirit and unity of purpose the challenge of the future can be met with new zeal in view of the rich heritage of the past.

The General Practitioner's Contract

When a young man of today assays to step into the field of general practice, he assumes more than ever before one of the most responsible positions in the field of medicine. When he opens his office, he signs, seals and records an implied, contract to build and maintain the health structure of the community in which he practices.

If his is a small community and he has no colleagues, he at once becomes the guardian of the health of that community. Epidemics cannot flourish without he is held responsible; therefore, he must see that school immunization programs are carried out. School lunches and proper lighting in homes and schools may require his attention. Village sanitary problems, such as safety of wells, construction and proximity of septic tanks and sewage disposal systems, are his problems as health physician. As of old he becomes father confessor, advisor, attorney, counselor and guardian to his patients, and he well knows that many of their illnesses are psychosomatic and germinate from mother-in-law problems, family maladjustments, business worries and frustrations. No microscope will discover the etiology of these diseases, and no antibiotics will cure

them. Thus he must be more than a laboratory trained automaton.

However, regardless of the size of the community in which a general practitioner elects to practice, he assumes a stupendous contract. It has been reported that the American College of Surgeons has said that 85 per cent of human ills can be cared for by the general practitioner. He therefore loses his individuality and becomes a contractor responsible for the health structure of each and every patient. Certainly no diploma nor certification dated 30, 20, 10 or even 5 years ago is *prima-facia* evidence of his competency to practice up-to-date medicine today. He must be able to diagnose. He must know the latest and most approved treatments for 85 per cent of human ills. Nor does his responsibility stop there. In the other 15 per cent he must recognize and admit his limitations and refer to specialists. Here he must be able to refer to only competent specialists. If the case be surgical, he must know his surgery well enough that if he does not possess the practice and skill to do it himself, he can recognize in surgeons the most efficient and effective technic and refer his case only where the best type of work is obtainable and the patient is handled in an acceptable manner. Knowing his patient's ability or lack of ability to pay, it is still his responsibility to see that surgeon and patient arrive at a financial settlement that is just to both. Likewise in a neurologic case which may be referred to a neuropsychiatrist or to a neurosurgeon the general practitioner should be able to guide his charge to the proper consultant.

Recently two doctors were heard conversing in a hospital corridor. One was remarking that he had to read so much on the road in an effort to keep up, and that if he practiced the way he did three years ago, he would be so far behind that he would be ashamed of himself. The other replied, "Doctor, I don't think that much of medicine. I am going to live awhile." Probably both were right to a degree.

It would seem that nothing has given quite so much impetus to postgraduate study since the war as the adoption by the American Academy of General Practice of the article in its constitution that no member of the Academy (no matter how eligible or desirable) can remain a member without taking 150 hours of postgraduate study every three years. This is engendering scientific assemblies and postgraduate courses of the best order.

Surely medicine has been given a great lift. The general practitioner who is ever conscious of his implied contract will be "a workman who needeth not to be ashamed."

Relaxed Inguinal Ring

It has always been a matter of speculation as to the etiologic significance of a relaxed inguinal ring in the occurrence of inguinal hernia. A recent study* clarifies prior contradictory findings by other investigators. As there has even been marked disagreement in the definition of what constitutes a relaxed inguinal ring, a ring which comfortably admitted an adult finger was considered in this study to be relaxed.

Examining 4,000 health records at a large university (the majority being in the age range of 18-20 years), relaxed subcutaneous rings were found to have been recorded as present in 392 of the 4,000. A control group was formed by selecting at random 392 men who, examined during the same period, had been found to have normal rings. Those in both groups were then contacted by letter between 9 and 11 years from the date of examination and asked whether or not they had developed a hernia, and, if so, on which side.

Replies from 274 of the 392 with relaxed rings showed that hernias had developed in 14 during that period, while hernias had developed in 8 of the 273 who replied out of the control group. Because the follow-up was so nearly equal, the results in the two groups may be directly compared. Analysis shows that the difference between the occurrence of hernia in the study group and the control group is not statistically significant; hence the authors conclude that the results of their study support their impression that relaxed subcutaneous inguinal rings *per se* are of no great significance.

Interesting further is that of the 392 persons with relaxed rings, 211 had bilateral relaxation, 82 had right-sided relaxation and 99 had left-sided relaxation. Those men with unilateral relaxation often had the opposite ring questionably somewhat lax. This high incidence of bilaterality supports a thesis that a relaxed subcutaneous inguinal ring is a result of a general body diathesis and not a result of any difference in descent of the testicle from the abdomen to scrotum.

*Ferguson, L. K.; and Wolcott, M. W.: Ann.Surg. (April) 1950.

Three-Minute Egg-Timer

At the suggestion of one of Michigan's doctors, the Michigan State Medical Society, on January 22, 1950, adopted an idea which has spread throughout the state of Michigan and many parts of the United States.

Here is the idea: The individual doctor of medicine obtains an inexpensive three-minute timing device (sometimes known as an egg-timer)

which he places on his desk in the consultation room. When a patient enters the room the doctor up-ends the hour-glass without offering any explanation of his action. After approximately three minutes the sand has run through the glass and the consultation usually has just begun. At this point the doctor explains to the patient that had he or she been in England, or had we socialized medicine here, his (the patient's) visit would have been over.

Another application of the plan is by way of showing that socialized medicine in the United States, based on an estimate of approximately 15 billion per year, would cost \$90,000 for the period it takes the sand to run through the timer.

Since its birth the hour-glass technic for combatting socialized medicine has been adopted by the National Association of Medical-Dental Bureaus, a large national insurance company and many others.

This idea is invited to your attention by the Michigan State Medical Society so that you may know of this interest-arresting device in the campaign in which we are now engaged.

CLINICOPATHOLOGIC CONFERENCE

(Continued from page 270)

cept that this is a generalized disease, not a disease of the pancreas. How else could one account for the lung disease and the other things that one finds in these babies. To go further with what Dr. Meyers talked about, I've recently read a report that has not been published as yet of operations on 10 patients from the Ochsner clinic; 8 of them survived the operation, and it is rather striking that in all but 2 of these survivors there was a variable improvement noted in the respiratory symptoms. In 3 of them there was very remarkable and immediate improvement after the operation, and this was both clinical and subsequently radiologic. In 2 of them the pulmonary improvement was equivocal and transitory. In this report it stated there was no beneficial effect upon the pancreatic secretion; that is, tryptic activity did not reappear. These babies were followed for a period of at least six months, and the conclusion in this report from this six months follow-up was that splanchicectomy will play a very limited part in the management of this condition. What is needed is larger experience and more time for a follow-up. I don't know whether these 10 patients included the 5 that Dr. Meyers mentioned or not. As far as this condition is concerned clinically, it isn't too difficult with our present knowledge of nutrition and digestion to maintain these babies and children nutritionally, as far as digestion is concerned and absorption

of nutrients; the big difficulty, of course, lies in the pulmonary disease over which we have practically no control. We have some control perhaps with the antibiotics but not sufficient. These children die ultimately because of pulmonary disease, and there isn't very much we can do about it.

Dr. Van Epps: The criteria used in the report mentioned by Dr. Jeans are unknown to me. I do think it should be emphasized, however, that roentgenographic improvement in the lungs can and does occur with sufficient frequency in patients who have undergone no special therapeutic measures. I would hesitate to attribute such improvement to the therapeutic measure until it can be shown that it is not only persistent in duration but also consistently found in a high percentage of cases.

GRASS ROOTS CONFERENCE

Seventh National Conference of
County Medical Society Officers

Sunday, June 25, 1950

Palace Hotel, San Francisco, Calif.

PROGRAM

- 9:00 a.m. Registration
Call to Order
A. M. Mitchell, M.D., Chairman
Terre Haute, Indiana
Address of Welcome
Gunnar Gundersen, M.D., Member,
Board of Trustees, AMA, La Crosse,
Wisc.
- 9:45 a.m. What Do You Know For Sure
A true and false questionnaire on socialized medicine to be given to everyone in the audience with 20 minutes allowed for answering. Results will be announced at the end of the morning session.
Conducted by L. Fernald Foster, M.D.,
Secretary, Michigan State Medical Society, Bay City, Mich.
- 10:15 a.m. THREE PANEL DISCUSSIONS
How to Organize a Community Health Council
Fred A. Humphrey, M.D., Fort Collins, Colo.
Blair Holcomb, M.D., Portland, Ore.
Providing Special Benefits Through County Medical Society Membership
Mr. Joseph Donovan, Executive Secretary, Santa Clara County Medical Society, San Jose, Calif.
How to Set Up a County Medical Society Record System
Representative from Remington Rand, San Francisco, Calif.
- 12:20 p.m. Results of Quiz
THE MEETING IS OPEN TO ALL PHYSICIANS
WHO ARE ATTENDING THE AMA
ANNUAL SESSION

NEWS NOTES

from the

Committee on Medical Service and Public Relations

BLUE CROSS-BLUE SHIELD

Iowa Medical Service (Blue Shield) has just completed five years of providing medical and surgical protection to the people of Iowa. Since this is its fifth anniversary, we have felt it would be proper to bring up-to-date the physicians who are its sponsors.

In 1945 Blue Shield enrolled 13,000 people. Since that time it has extended its coverage to over 200,000 Iowans. With the increased enrollment and the experience gained in utilization it has been possible for this plan to extend its coverage. The Board of Directors of Iowa Medical Service recently increased the medical provisions of Blue Shield from 21 days per contract year to 70 days per hospital admission, and after an interim period of 90 days a member may be entitled to an additional 70 days of hospitalized medical care, with the attending physician receiving a \$10 payment on his fourth visit to the patient in the hospital and \$3 for daily visits up to and including 70 days. The Board also increased the full service limits of the plan from \$2,500 for the family to \$3,000 and from \$1,500 for the individual to \$2,000. These full service benefits are the outstanding features of Blue Shield. The fee committee of Iowa Medical Service is now in the process of adjusting the schedule of benefits.

A physician who participates in this program agrees that he will accept the fee established by the Blue Shield plan as full payment for his services if the total family income in the year preceding care is less than \$3,000, or for an individual \$2,000. Persons who have earnings which exceed the full service incomes listed above are expected to pay the physician whatever may be his normal charge. As an example, if the family income in the year preceding surgery is \$3,500 and the normal fee for an appendectomy is \$150, the physician is privileged to ask the patient to pay the difference between the amount provided by Iowa Medical Service (Blue Shield) and the total bill. In this case, Blue Shield would provide a payment of \$100 and the patient would be responsible for payment of the \$50.

The Board also approved 100 per cent payment for services rendered by non-participating

physicians, with the check being mailed to the subscriber. They are happy to announce that over 80 per cent of the physicians in Iowa are participating in Blue Shield and that there is only one county in the state where the protection is not available.

Over the \$1,000,000 Mark in Claims Paid

Claims paid for Blue Shield subscribers during 1949 totaled \$748,312.33. Since the formation of the corporation, Blue Shield has paid \$1,536,433.64 for services rendered its subscribers.

Blue Shield membership was opened to individuals for the first time May 1, 1950. However, Blue Cross has been accepting non-group enrollments for several months.

Non-group enrollment in Blue Cross and Blue Shield was emphasized during the month of May as a feature of the tenth anniversary of the Blue Cross Plans and the fifth anniversary of Blue Shield. While non-group enrollment will continue during the year, special stress will again be put on it during the fall months through newspaper advertising and radio spot announcements, such as were used this spring.

Non-group enrollment is open to employed persons, either self-employed or working where there are five or less employees, under 65 years of age, and with a health statement. Contracts are underwritten for these applicants. Rural persons eligible for non-group enrollment must join through their local County Health Improvement Association in counties where there is one; otherwise they may enroll direct. Persons living in towns of over 2,500 may enroll through their HIA or direct with the Blue Cross-Blue Shield offices. All who enroll direct pay an enrollment fee of \$2.00.

A package of blue, self-addressed, postage-paid inquiry cards for the use of persons interested in Blue Cross-Blue Shield was sent to each hospital and doctor. This saves time for the doctors. When inquiries are sent direct to the Blue Cross office, the correct application form for the type of enrollment for which they are eligible can be sent. Additional inquiry cards are available.

(Continued on page 286)

HISTORY OF MEDICINE IN IOWA

Edited by the Historical Committee

DR. WALTER L. BIERRING, Des Moines, *Chairman*

DR. JOHN T. MCCLINTOCK, Iowa City, *Secretary*

DR. CHARLES L. JONES, Gilmore City

DR. CLYDE A. HENRY, Farson

DR. LESTER C. KERN, Waverly

DR. JEANNETTE DEAN-THROCKMORTON, Des Moines

DR. EVERETT M. GEORGE, Des Moines

ONE HUNDRED YEARS OF IOWA MEDICINE Commemorating the Centenary of the IOWA STATE MEDICAL SOCIETY 1850-1950

By authority of the House of Delegates and direction of the Board of Trustees, the Historical Committee has prepared a centennial volume under the above title, of which samples were exhibited at the Burlington session. The book will be 8 by 10 inches, bound in dark red cloth, with gold lettering, and will comprise 432 pages. The contents will include a Foreword by the 1950 State Society president, Dr. N. G. Alcock, and an Introduction by the Historical Committee. Chapter headings are as follows:

Iowa Medicine Prior to 1850

Iowa State Medical Society—Abstracts of Annual Proceedings 1850-1950

The Presidents 1850-1950

Official Branches of the State Society—The Secretary's Office, The Trustees, The Council

State Society Members in Official Position in the American Medical Association

City, District and County Medical Associations

Medical Education in Iowa

Medical Journalism in Iowa

Hospitals in Iowa

State Society Iowa Medical Women, and Branch 19, American Medical Women's Association

Woman's Auxiliary to the Iowa State Medical Society

Iowa State Medical Library

The Iowa Doctor in the Spanish-American War, World War I, World War II

Iowa State Board of Health and Medical Examiners, Iowa State Department of Health

Growth of Psychiatry in Iowa

History of Nursing in Iowa

Public Health Nursing

History of Pharmacy in Iowa

Diary (1850-1912) of Dr. J. M. Shaffer, Keokuk

A copy of the centennial volume, which will be ready for delivery on or before July first, will be sent to each member of the Iowa State Medical Society without charge.

Extra copies may be obtained at \$2.50 each, but orders must be submitted promptly to the Executive Secretary, 505 Bankers Trust Building, Des Moines 9, Iowa.

THE CENTENNIAL BANQUET

The annual banquet of the Centennial session of the Iowa State Medical Society was held at the Hotel Burlington, Tuesday, April 25, 1950. The principal address was presented by Dr. Franklin D. Murphy, dean of the University of Kansas School of Medicine, which was preceded by a brief summary of the historical development of the State Society during its first one hundred years presented by Dr. Walter L. Bierring.

Two interesting items appeared on the dinner menu: A poem prepared by the late Dr. Charles J. Whalen of Chicago for the centenary of the Illinois State Medical Society in 1940:

APOSTROPHE!

One hundred years! A century!
Three generations in the life of man.
But to the Infinite far less
Than the silent passing of a mote against the wind.
We have struggled all of us . . .
And greater yet the struggle always is . . .
For us today, for those to come and those who went
before.
Like a cell dividing and redividing,
Doubling through loss and losing through the gain.
That is the task Hygeia sets for us,
That is the goal that Aesculapius sought,
And Galen, too, and every other brother of the
twisted snakes.

The oath you took—the oath we follow still,
As men alone and men by cordons bound—
Rests in our care, protected and secure.
Sleep Peacefully, O, our Hippocrates!
The lamp you lit, that flame is guiding still
Our efforts and our lives. And neither age,
Nor youth flamboyant, nor weak indulgence of a
lesser self

Has stopped, nor will stop us, come what will
As hundreds after hundreds of the years roll on.
For we are men of medicine, and as such
Can heal and help the suffering sons of God.
And we have faith in Him, and in our fellow man.

and a tribute by Dr. Walter L. Bierring:

THE IOWA DOCTOR

As frontiersman and pioneer, the Iowa doctor helped to blaze new trails and make history in this great prairie state.

He brought strength, courage and character to each new settlement, and by sacrifice and endurance became resourceful and self-reliant to meet every emergency.

As one of twenty-five medical pioneers, he helped to form the Iowa State Medical Society in this city of Burlington one hundred years ago—the beginning of professional organization and a new era in Iowa medicine.

In that memorable year, medical education, too, had its beginning, and the first medical journal was published west of the Mississippi—each enterprise coming, within the century, to its present high estate.

His is a story of romance from the days of the saddlebags to that of the richly endowed modern physician; an evolution in medical practice by horseback, horse and buggy, the automobile and the airplane.

Grown to stature and leadership in all fields of medical service, the Iowa doctor has met every challenge in a changing social order. Inspired by the rich heritage of the past, he looks ahead with new zeal, faith and high purpose.

David N. Loose, M.D., Maquoketa University of Pennsylvania—Oldest Living Medical Alumnus

It is interesting to record that Dr. David N. Loose of Maquoketa, who received his degree in medicine from the University of Pennsylvania in 1877, celebrated his ninety-fifth birthday on Feb. 6, 1950, in Orlando, Fla., where he has been spending the winters for several years. The accompanying photograph taken Feb. 19, 1950, presents him with his nurse and Dr. Frederick J. Swift of Maquoketa.

He is not only the oldest living medical alumnus of the University of Pennsylvania but also of the College of Franklin and Marshall, where he received his literary degree in 1874. While a student at the latter institution, he heard an address by

Horace Greeley in which he repeated his famous "Go West, young man, go West."

Dr. Loose recalls clearly his teachers in the medical faculty as well as recent and past events. He refers to Dr. Horatio Wood, professor of materia medica, as an enthusiastic and humorous teacher. Dr. Joseph Leidy, professor of anatomy, had difficulty with the drying of his specimens because the janitors drank the alcohol.

He was privileged to attend the Centennial Exposition in 1876 and was particularly impressed



with the exhibit of Alexander Graham Bell, which consisted of two telephones in booths one hundred feet apart.

In October 1877 he located at Zwingle, Iowa, and moved to Maquoketa in 1882. He was married in 1883 to Francelia Josephine Spitzer of Medina, Ohio. He carried on postgraduate work in 1884 in Philadelphia and Baltimore, made his first visit to the Mayo Clinic in 1905, and preceding World War I spent several months visiting medical and surgical clinics in Vienna.

He presented an interesting paper on anemia before the State Medical Society at the Des Moines session in 1911.

Dr. Loose retired from active practice in 1935 at eighty years of age.

During a visit to Des Moines two years ago he impressed everyone with his rare humor and rather amazing knowledge of recent advancement in pharmacology and other fields of medicine.—[Extracted from *Maquoketa Community Press* (Feb. 23) 1950, and *Pennsylvania Gazette*, University of Pennsylvania (Feb.) 1950.]

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

BREAST DEFORMITIES AND THEIR REPAIR—By *Jacques W. Maliniac*, M.D., Clinical Professor of Plastic Reparatve Surgery and Associate Attending Plastic Reparatve Surgeon, New York Polyclinic Medical School and Hospital, New York City; Attending Plastic Surgeon, Sydenham Hospital; Diplomate, American Board of Plastic Surgery. Grune and Stratton, New York, 1950. Price \$10.00.

CLINICAL NUTRITION—Edited by *Norman Jolliffe*, M.D., *F. F. Tisdall*, M.D., and *Paul R. Cannon*, M.D.; For the Food and Nutrition Board of the National Research Council. Paul B. Hoeber, Inc., New York, 1950. Price \$12.00.

HARVEY CUSHING; Surgeon, Author, Artist—By *Elizabeth H. Thomson*; Foreword by *John F. Fulton*. Henry Schuman, Inc., New York, 1950. Price \$4.00.

INFRARED RADIATION THERAPY SOURCES AND THEIR ANALYSIS WITH SCANNER—By *Leopold Rovner*, Consulting Physicist, Cambridge, Mass. Charles C. Thomas, Springfield, Ill., 1950. Price \$1.50.

YOU AND YOUR HEART; A Clinic for Lāymen on the Heart and Circulation—By *H. M. Martin*, M.D., and *T. Duckett Jones*, M.D., *Irvine H. Page*, M.D., *Irving S. Wright*, M.D., *David D. Rutstein*, M.D.; Foreword by *Paul D. White*, M.D. Random House, New York, 1950. Price \$3.00.

PROCTOLOGY IN GENERAL PRACTICE—By *J. Peerman Nesselrod*, B.S., M.S., M.Sc.(Med.), M.D., F.A.C.S., F.A.P.S., Associate in Surgery, Northwestern University Medical School; Associate Surgeon, Division of Proctology, Evanston (Ill.) Hospital; Certified by the Central Certifying Committee in Proctology (Founders' Group) of the American Board of Surgery; Commander (MC), USNR. W. B. Saunders Co., Philadelphia, 1950. Price \$6.00.

1949 YEAR BOOK OF PHYSICAL MEDICINE AND REHABILITATION (Including a Section on Occupational Therapy) (November 1948-December 1949)—Edited by *Frank H. Krusen*, M.D., Professor of Physical Medicine, Mayo Foundation; Head of the Section on Physical Medicine, Mayo Clinic; and *Howard A. Rusk*, M.D., Professor of Physical Medicine and Rehabilitation, New York University College of Medicine; Chairman of the Department of Physical Medicine and Rehabilitation, Bellevue Hospital, New York City. Associate Editors: *Earl C. Elkins*, M.D., Consultant in Physical Medicine, Mayo Clinic; *Winfred Overholser*, M.D., Professor of Psychiatry, George Washington University School of Medicine; Superintendent, Saint Elizabeth's Hospital, Washington, D.C.; *George G. Deaver*, M.D., Professor of Clinical Rehabilitation and Physical Medicine, New York University College of Medicine; Director of the Department of Physical Medicine and Rehabilitation, Bellevue Hospital. The Year Book Publishers, Inc., Chicago, 1950. Price \$5.00.

BOOK REVIEWS

A Monograph On Sucking Habits (Thumb, Finger and Hand Sucking), by *Paul J. Mandabach, Sr.*, Professional and Public Relations Counselor, (677 N. Michigan Ave., Chicago 11, Ill., no charge). Mr. Mandabach has made an extensive personal survey of medical, dental and consumer literature including textbooks on the subject of thumb sucking. Following this survey, he has published a monograph in the hope that children will not be faced with the ordeal of malocclusion. Copies of this monograph may be secured without charge by addressing the author who hopes that physicians, dentists and nurses interested in this problem will cooperate in the correction of abnormal sucking habits. Pediatricians undoubtedly will find this monograph of considerable interest.—E. M. George, M.D.

Primer of Allergy, by *Warren T. Vaughan*, M.S., M.D., Revised by *J. Harvey Black*, M.D. (C. V. Mosby Co., St. Louis, \$3.50), is the third edition of a widely serviceable text written for the purpose of acquainting allergic patients about their illness. The previous editions have been quite popular among both physicians and the laity. The author demonstrates a talent for presenting the subject in a simple, clear and interesting fashion. The text deserves a place in the doctor's office library where it can be used as a valuable aid in clarifying the subject of allergy to the patient.—Jack Spevak, M.D.

Quinidine in Disorders of the Heart, by *Harry Gold*, M.D. (Paul B. Hoeber, Inc., New York, \$2.00), in this first edition, minimizes the controversial part of the experimental and clinical data in the therapeutic field of cardiac disorders, thereby making this mono-

graph more valuable for the busy cardiologist, general practitioner or medical student. Written in a concise and informative manner, it presents the physiologic mechanism and rationale of the use of quinidine, the therapeutic objective, the indications and contraindications and the dosage and methods of adjustment.—J. K. Uchiyama, M.D.

Diseases of the Foot, by *Emil D. W. Hauser*, M.S., M.D. (W. B. Saunders Co., Philadelphia, \$7.00). With the advances made in the treatment of circulatory disorders, the use of antibiotics in the treatment of infections, and additional knowledge which has accumulated in the past 10 years, Dr. Hauser has found it necessary to revise the material which was so well presented in the original edition. The basic fundamentals in the treatment of foot disorders continue to be well presented from the anatomic, physiologic and orthopedic viewpoint. Any physician dealing with the treatment of foot disorders will find this treatise of distinct value in the successful management of his patients.—E. M. George, M.D.

Human Growth, The Story of How Life Begins and Goes On, Based On the Educational Film of the Same Title, by *Lester F. Beck*, Ph.D. (Harcourt, Brace & Co., New York, \$2.00). As indicated by the title, this book is indeed an instrument of value to all educators in presenting the story of how life begins and goes on. The illustrations are adapted to the adolescent and are presented in such a manner that the fundamentals may be grasped and understood without embarrassment. The volume is recommended highly as a useful adjunct on instruction in human reproduction.—E. M. George, M.D.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. CLAIRE H. MITCHELL, Indianola

President-Elect—MRS. HOWARD W. SMITH, Woodward

Secretary—MRS. RALPH J. SELMAN, Ottumwa

Treasurer—MRS. DWIGHT C. WIRTZ, 449-56th St., Des Moines

REPORT OF ANNUAL MEETING

The Woman's Auxiliary to the Iowa State Medical Society held its twenty-first Annual Meeting in Burlington April 24-25, 1950. Mrs. Roger M. Minkel, president, presided at all meetings. Dr. Ernest B. Howard, assistant secretary, AMA; Mrs. Leo J. Schaefer, director and program chairman of the Woman's Auxiliary to the AMA; and Dr. Marjorie Shearon, Legislative Medical Service, Washington, D. C., were honored guests.

Following limited revisions, printed reports of officers were accepted at the Executive Board meeting held at the Y.W.C.A. on Monday morning. Mrs. Soren S. Westley and Mrs. J. C. Decker were in charge of the memorial service during the general meeting which followed. Mrs. C. H. Mitchell, president-elect, presented a clever program on general information concerning the Auxiliary.

Luncheon was held at the Masonic Temple, and greetings were brought by the national guests and also state guests, who were Dr. Nathaniel G. Alcock, president of the Iowa State Medical Society; Dr. Thomas F. Thornton, president-elect; Dr. Robert N. Larimer, trustee; and Dr. James E. Reeder, advisor to the Woman's Auxiliary.

Mrs. Leo J. Schaefer was the chief speaker at the panel discussion "The Auxiliary at Work," which took place after the luncheon. Excerpts from her luncheon greetings and her panel discussion will be found under a separate heading. The varied aspects of the State Auxiliary program were presented, and those on the county level were given by three county presidents: Mrs. R. L. Knipfer, Buchanan; Mrs. C. L. Putnam, Polk; and Mrs. J. D. Lutton, Woodbury.

There was a tea at 4:00 p.m. at Moir Hall, Burlington Nursing Home, and dinner at 8:00 p.m. with the doctors at the Burlington Country Club. Mrs. Carl J. Lohman and her committee provided in a most gracious and thoughtful way for the comfort and entertainment of all who attended the Annual Meeting. There were varied breaks during the two-day session for coffee and visiting which did much to banish the fatigue which goes with continued sitting and concentration on business and speeches.

Sixteen attended the breakfast on Tuesday morning on the mezzanine of the Hotel Burlington. Mrs. E. B. Howell conducted a program "Needs for Furthering the Auxiliary Program."

The general meeting began at 9:30 a.m. and was held in the social room of the Congregational church. Printed annual reports of officers and chairmen were accepted. The following were elected as delegates to the National Meeting at San Francisco June 26-30: Mrs. C. H. Mitchell, Mrs. F. W. Mulsow, Mrs. Donovan Ward, Mrs. R. J. Selman, and Mrs. Edwin Hoeven. The president was given the right to fill Iowa's quota by appointment. Registration for Monday was 122.

Mrs. A. G. Felter, chairman of the Nominating Committee, reported the following ballot, all of whom were duly elected: president, Mrs. C. H. Mitchell, Indianola; president-elect, Mrs. H. W. Smith, Woodward; first vice president, Mrs. Don Hennessy, Council Bluffs; second vice president, Mrs. C. H. Coughlan, Fort Dodge; recording secretary, Mrs. R. J. Selman, Ottumwa; treasurer, Mrs. D. C. Wirtz, Des Moines; councillors, Mrs. R. M. Minkel, Fort Dodge, Mrs. J. L. Lawrence, Dubuque, Mrs. R. M. Needles, Atlantic, Mrs. L. A. Coffin, Farmington, Mrs. J. F. Veltman, Winterset; directors, Mrs. J. C. Decker, Sioux City, Mrs. Fred Moore, Des Moines, Mrs. George Crow, Burlington.

The principal speaker of the morning was Dr. Marjorie Shearon, Legislative Medical Service, Washington, D. C., whose topic was "Women in a Socialist Program." Dr. Shearon was most impressive in delivery, in earnestness of purpose, and possessed a seemingly inexhaustible fund of statistical and factual information. She spoke with spirit and entirely without notes. On her recent trip to England Dr. Shearon had an ample opportunity to interview both commoners and doctors as to the medical set-up in a welfare state. Since socialization has existed in England since 1912, recent extensions are only more of the same thing; and since standards of living have been markedly lower than they are in the United States, it is to be expected that there are many who would favor state medicine.

Under United States' standards, it is inconceivable that American people would be satisfied with only three minute office calls minus examinations, privacy, case histories and with only a bottle of medicine for the acknowledged ailment. Nor would they be likely to favor normal, night-time deliveries handled entirely by nurses. A doctor who is allowed 4,000 patients at \$2.24 per head per annum would be expected to take a full quota whether he

could give them good treatment or not in order to live in a country where all needs of life, including food, are rationed. Fatigue would be constant from poor diet and pressure of patients. Some English doctors have even learned to make house calls within three minutes per patient. Demoralization cannot but be overwhelming. "There is no fight left in the British; Britain is done for."

Dr. Shearon warned that the Social Security Act is aimed at government control in the United States and that women "have a duty to know about major bills." Their information should come from an authoritative source. By letters, phone calls, organized groups and above all individual letters on personal stationery to Congressmen, much can be done to halt this trend. Only a small Washington group is mainly responsible for trying to institute socialized medicine, and unless women want to become "unpaid servants of the federal government" through a ration program which will only begin with medicine, we had better foster constant forces against socialism.

Luncheon was held at the Country Club. Honored guests included the national guests already mentioned and the following guests from the Iowa State Medical Society: Dr. Fred Sternagel, chairman, Public Relations; Dr. Ransom D. Bernard, general manager; Mr. Donald L. Taylor, field secretary; and Mr. I. W. Meyers, legal consultant. Each brought greetings which embraced the following facts: A specified plan for securing resolutions against socialized medicine from as many Iowa organizations as possible is being prepared, and Auxiliary members will be asked to participate in this enterprise. Blue Shield has an enrollment of 200,000 and has doubled its membership in the past year. It has expanded its services considerably to better accommodate catastrophic illness. The three men at the helm of Blue Shield in Iowa are all experienced insurance executives. Efforts to repeal the Basic Science Law are again under way, and doctors' wives must do their utmost to prevent this.

Following luncheon, a panel discussion "It's Your Crusade, Too" was moderated by Mrs. K. M. Chapler with Dr. Ernest B. Howard, assistant secretary of the AMA, as chief speaker. He emphasized the work of the Auxiliary and stressed the fact that guidance and instruction need to come from the state and county medical societies. Some Auxiliaries have done good work; others have allowed enthusiasm to exceed medical society authority and have gone too far.

In regard to socialized medicine, Dr. Howard stated that it is the opinion of the majority of the Board of Trustees of the AMA that the profession and their wives concentrate their efforts against socialized medicine only. It is inevitable that energies and results will be dissipated by attempting to participate in the many fields related to medicine. Progress in the past year through education of the layman as well as the profession along with the increasing success of voluntary insurance will

afford an opportunity for a positive instead of a negative approach to the problem. "Endorsements are essential" and letters to Congressmen cannot but play a vital part in the outcome of medical legislation. A socialistic candidate should have no place on our ballot.

Continuing, Dr. Howard pointed out the fact that State Nurses' Associations as a whole have made little or no effort to combat socialized medicine. The moderator suggested that it is unfortunate that nurses have been slow to align themselves with the profession when they receive training and status because of professional backing. However, the fact that many of them are in government service because of better pay and the fact that other groups than doctors of medicine sometimes offer better pay too might be a determining factor.

Dr. Howard was gracious, sincere, a pleasing speaker, and altogether a credit to the AMA in his difficult position as liaison officer to the Woman's Auxiliary.

Mrs. A. B. Phillips, state chairman of Public Relations, commented briefly upon Auxiliary efforts in that field, and the following members discussed activities on a county level: Mrs. P. L. Spencer, Mrs. E. E. Munger, Mrs. Harris Heise and Mrs. Hanley Jenkins.

Following the panel discussion, a motion was carried to the effect that the recording and corresponding secretaries be responsible for resolutions of gratitude to all who participated in making the Annual Meeting a success. Mrs. F. A. Murray, the first secretary of the Woman's Auxiliary to the Iowa State Medical Society, installed the new officers with dignity, charm and inspiration.

Mrs. K. M. Chapler
Publications Chairman

ANNUAL REPORT OF THE PRESIDENT 1949-1950

Now that I am completing my year as your president, the twenty-first president to report to you, I am more thoroughly convinced that our program of education for the doctors' wives is important if we are to continue making definite contributions to the preservation of the present system of medical care and to aid in the improvement of health conditions generally.

It is natural to look back, upon completing a term in office, to consider what has been accomplished. It is natural to recall to mind what our plans were a year ago, for only in this way can we evaluate our efforts. Only in this way can we plan for the future.

The goals we had hoped to attain were: to bring together all material relative to the work of the Auxiliary in one central location under the corresponding secretary; to correlate the planning of the officers and state chairman in all fields of activity; to utilize the Auxiliary to the utmost in emphasizing the need for every Auxiliary member to be better informed so she could spread through her associated contacts in other organizations the correct health

information; to keep complete files of all the work in the Auxiliary from state to county level; to continue working for an increase in the number of county Auxiliaries and to promote closer relationship with the members-at-large; to hold district meetings under direction of the councilors and the president, with state officers present to give impetus and more direct contact and guidance between annual meetings; to work for closer cooperation with the medical societies, both county and state.

The establishment of Auxiliary headquarters under the corresponding secretary was accomplished, and the advisor and the State Medical office were informed of all directives issued from this office as well as being asked for proper procedures to follow relative to all national materials received by our chairman and your president.

To correlate the planning of state chairmen, a committee meeting was held in May at which time program, public relations, legislation, organization, publications chairmen and the following officers—president, treasurer, and corresponding secretary—attended as well as the councilors. The programs of the other chairmen being very definitely defined, it was not felt their fields of work overlapped as in the above cases. It was at this meeting that the plans for the year were again discussed, and it was agreed that all materials to county presidents, or the entire membership, would be sent to Auxiliary headquarters for mailing. All material sent out by the state chairman was geared for the information of the individual member, and lists of supplementary material were provided so additional information could be secured on any phase of program. The reports of the county Auxiliaries show there is still much work to be done in program planning for regular meetings, and constant emphasis must be placed on our responsibility of being informed so we can better function in the other organizations to which we belong.

Complete files on all phases of Auxiliary activity were maintained and resulted in a list of active members, showing a complete picture of all activities of each county group.

The result of the many contacts made in previous years often shows in another year. This year we have added four new counties as well as made direct contacts with our loyal members-at-large. The organization of a county is the first objective, but providing them with information pertaining to the Auxiliary and forwarding program material is equally important if they are to become and remain active groups.

It was hoped this year that we could hold the district meetings in all sections of the state. We were only successful in having one in the northeast section. I feel that this program should be emphasized again this next year, since we do not have a majority of our county presidents attending board meetings.

All officers and committee chairmen have urged

the correlating of programs on the county level and asked that each organized county request, again, an advisor from the medical society. We have, likewise, on the state level asked for more direction in the planning of our state projects in the fields of public relations and legislation. Each year we have received a little more aid in the correlation of planning for the Auxiliary with the State Medical Society. I feel confident that even more will be forthcoming in the near future.

I commend to you the reading of the reports of the state chairmen and officers which have made the above accomplishments possible. Each one has assumed her responsibility and duties with the utmost efficiency and the sincere desire to contribute to a year of growth for the Auxiliary.

As your president, I attended two national meetings in Chicago; 24 meetings in Des Moines relative to Auxiliary work; and visited 19 counties relative to organizing or contributing to a program. I have represented you at four meetings of the Iowa Council for Better Education and two Community Planning Conferences relative to the health sections and presented a 15-minute radio program from WOI to tell of the objectives and work of the Auxiliary. I was asked to represent you on the Health Section of the Iowa White House Conference for Children and Youth. You have been represented at meetings of the Iowa State Community Health Council, Advisory Committee for the Iowa State Nursing Survey, and on the Board of the Iowa Society for Handicapped Children and Adults, as well as at the AMA annual meeting and the Public Relations meeting recently held in Chicago.

An average of 35 personal letters a month have been written relative to the work of the Auxiliary, and at least two hours a week were spent in conferring with your corresponding secretary regarding letters received at headquarters, the forwarding of material and the checking of the files.

I am sure you realize that it was the combined efforts of all of you that have made possible the annual reports contained in this booklet, and that as more and more women accept their responsibility as doctors' wives, our organization will continue to grow in like proportion. It has been a privilege to serve the Iowa State Auxiliary as president.

Mrs. Roger M. Minkel
Fort Dodge

THE AUXILIARY PROGRAM AND YOU

"So many are interested in public relations and forget how important the preparation can be."

"The May issue of *Reader's Digest* has a splendid article on 'Here's Health—The Voluntary Way' by Dr. Elmer L. Henderson, president-elect of the American Medical Association. He pays tribute to your State Medical Society for locating 159 physicians in formerly doctorless communities. There alone should be about 159 more Auxiliary members for your State organization.

"United this Auxiliary with a membership of over 50,000 can be a formidable force. We must stand united behind American medicine and all it represents. We must carry the torch of truth to the uninformed and misinformed.

"If the people of this nation are to fully recognize and clearly understand the grave issues involved in the proposal for a government controlled system of medicine, all of us who know the facts have an obligation to speak out, for the matter seriously concerns the health and welfare of every American.

"The decisions and actions of the American people in 1950 will have a vital effect on the future of our nation. . . ."

"We must inform ourselves and always remember before we speak that we are an Auxiliary to our parent Medical Society and be ever guided by our medical advisory committee. Fortified with this personal education we receive from our Auxiliary meetings, we can carry the message of medicine to our women's clubs, our Parent-Teachers' Associations, our church groups, the League of Women Voters, and even at the bridge table and on the golf course."

"Dr. Ernest E. Irons, the president of the American Medical Association, stated that 'women's knowledge of family health problems, women's insight into great public issues that closely concern the family welfare, and women's ability to organize their tasks and complete them, are three of the greatest assets that American medicine and its friends have in the campaign against government controlled medicine.' Each one of us must do her part."

"If only each member received 'The Bulletin,' the state and county officers and committee chairmen would have less difficulty in getting their message to the members. Programs planned on a national level are only as effective as the county level and you as an individual use them."

"To know and understand the 12-point program of the AMA would provide material for many meetings and study clubs. The 12-point program was published in the August 1949 'Bulletin,' and reprints are available. In addition we must know the AMA's answer to Truman's Compulsory Health Insurance program. We must know the voluntary prepayment medical and hospital care plans, both Blue Cross and Blue Shield as well as commercial plans. People must be made to realize how Truman's Compulsory Health Insurance plan will affect them, not how it affects the doctor. Do you know the health facilities available in your city? in your county? in your state? Do you know the school health program, the rural health program and its proposed solutions, the methods for nurse recruit-

ment and the information available, the radio scripts available from the AMA office for local broadcasting stations, free of charge, the value of *Today's Health* (formerly *Hygeia*)? These are all program topics suggested last fall to the state program chairman, to which they could add programs of special interest to their individual state. Community health councils and your participation in their operation will give you an opportunity to impart this information to others."

"There should be close cooperation between the program, legislation and public relations committees in each state and county. Many feel that these committees overlap. Necessarily they do. The program and legislative materials are a means to personal education in our Auxiliary meetings. From this personal or self education our public relations will emerge. How true is the adage, 'Study without action is futile but action without study is fatal.' You cannot do good public relations without a thorough study of the program to be presented. Yes, you may study and read privately, but the safer method is for good programs to be presented at your Auxiliary meetings which have been approved by your medical advisory committee. In planning programs we have basic subjects which must be repeated each year and added to it the material which is current. Our meetings can be both educational and social."

"Always remember that our public relations follow good Auxiliary programs. Public relations do not necessarily mean public mass meetings; in fact, Dr. Bauer, editor of *Today's Health*, says, 'Don't arrange a public mass meeting unless you must—but send your speakers to a ready-made audience seeking speakers. Many Auxiliaries have Health Days, public relations teas, nurse recruitment programs for high school seniors, but never forget that public relations are possible in your P.-T.A.'s, federated clubs, church groups and at the bridge table and on the golf course. Cooperate with all civic groups interested in health, offer your services and your health materials. See that the speaker is an M.D., as he is the recognized health authority.

"Less than 1 per cent of the people of our country are interested in a socialistic state and are undermining our country. This type of person always assumes active leadership. If the more than 50,000 Auxiliary members were as active and zealous, untold wonders could be accomplished in directing the public thinking in favor of American medicine and our American way of life. The National Education Campaign of the American Medical Association (Whitaker and Baxter) urge us to be informed, to inform others and to obtain resolutions from our various clubs against Socialized Medicine and see that every eligible voter is registered and votes. This is the only language the government seems to understand."

Mrs. Leo J. Schaefer
National Director and Program Chairman
(Excerpts from her speeches at the Annual Meeting in Burlington)

SOCIETY PROCEEDINGS

MEETINGS

Black Hawk

The Black Hawk County Medical Society met April 18 at the Hotel Russell Lamson in Waterloo. Dr. C. M. Kos, assistant professor of otolaryngology at the SUI College of Medicine, spoke on "Idiopathic Dizziness."

The May meeting of the Society was held on the sixteenth at the same place, with Dr. Harry H. McCarthy, of the department of surgery at Creighton University, as guest speaker. His subject was "Questions of Embolism and Thrombophlebitis."

Emmet

"Peptic Ulcer" was the subject of the two guest speakers at the May 2 meeting of the Emmet County Medical Society at Estherville. Dr. Ted Sattler discussed "Diagnosis" and Dr. C. B. McVay "Treatment." Both doctors are from Yankton, South Dakota.

Fayette

The Fayette County Medical Society held its regular monthly meeting at the Mealey Hotel in Oelwein on April 11, with members from the Bremer, Buchanan, Clayton and Winneshiek County Societies also present as guests. Dr. A. L. Sahs, head of the department of neurology at the SUI College of Medicine, spoke on "Headaches," after which address a discussion period followed.

Newly elected officers of the Society are Dr. B. A. Hall, president; Dr. A. M. Hess, vice president; and Dr. M. G. Beddoes, secretary-treasurer.

Iowa and Illinois Central District Medical Association

The annual meeting of the Iowa and Illinois Central District Medical Association was held May 31 at Jul's Danish Farm in Moline. Dr. Phil Thorek, associate professor of surgery, University of Illinois College of Medicine, began the scientific program with an address on "The Acute Abdomen." Following dinner and a business meeting, Dr. Wright Adams, professor and chairman of the department of medicine at the University of Chicago, spoke on "Diagnosis and Prognosis of Coronary Artery Disease."

Iowa Academy of General Practice

The Iowa Academy of General Practice held its annual meeting in Burlington on April 24 during the meeting of the Iowa State Medical Society. Dr. Horace M. Korns of Iowa City spoke on "The Use and Abuse of Digitalis." It was decided at the meeting that for the first time the Iowa Academy would

make special effort to enlist interested doctors in membership this coming year.

Officers elected for the coming year are as follows: president, Dr. C. V. Hamilton of Garner; vice president, Dr. L. H. Jacques of Lone Tree; secretary-treasurer, Dr. W. M. Sproul of Des Moines. Drs. C. A. Nicoll of Panora, P. F. Chestnut of Winterset and R. L. Knipfer of Jessup were named to the board of directors.

Iowa Society of Anesthesiologists

The Iowa Society of Anesthesiologists at their annual dinner and business meeting in Burlington April 24 heard a scientific paper by Dr. Stevens J. Martin of Hartford, Conn.

The following officers were elected: president, Dr. R. E. Cooper; vice president, Dr. J. Fred Throckmorton; and secretary-treasurer, Dr. M. G. Beddoes.

Johnson

The Johnson County Medical Society met jointly with the Dental Society at the Jefferson Hotel in Iowa City May 3. Mrs. Molly Samore of Sioux City, former British subject, spoke on "Britain's Nationalized Health Scheme."

Page

Dr. Lewis Moon of Omaha was the guest speaker at the regular monthly meeting of the Page County Medical Society in Clarinda April 20. The next meeting is planned for May 18 in Shenandoah.

Pocahontas

The Pocahontas County Medical Society met April 12 at the home of its president, Dr. J. M. Rhodes, in Pocahontas, with an attendance of 100 per cent. Following a routine business meeting, a petition was presented addressed to the Fort Dodge hospitals, protesting the exclusion of "country doctors" of the territory surrounding Fort Dodge from care of their hospitalized patients. After discussion, the petition was signed by all members.

Pottawattamie

Dr. Kenneth R. Cross of Des Moines was the guest speaker at a meeting of the Pottawattamie County Medical Society in Council Bluffs on April 18. His subject was "Bronchial Carcinoma."

Scott

Scott County Medical Society members heard an address by Dr. Edwin R. Levine of Chicago on "Masking Diseases of the Chest" at a meeting May 2 at Pine Knoll Sanatorium in Davenport. They also adopted a system under which physicians will be pagged by number at public gatherings.

Winneshiek

The Winneshiek County Medical Society met April 5 at Hotel Winneshiek in Decorah in connection with the Crippled Children's Clinic held at Decorah hospital April 5 and 6. Guests were present from Allamakee and Howard County Societies. Dr. I. V. Ponseti of Iowa City addressed the group on fractures of the lower extremity, with preliminary remarks regarding early diagnosis of congenital dislocations of the hip in infants. Dr. John Mac Queen of Iowa City followed with an address on new concepts on diagnosis, classification and treatment of acute anterior poliomyelitis.

State Society of Iowa Medical Women and Branch 19 of the American Medical Women's Association

The fifty-third annual meeting of the State Society of Iowa Medical Women and Branch 19 of the American Medical Women's Association was held after a dinner at the Arion Club in Burlington on April 25. In addition to routine business and election of officers, the discussion was concerned with some of the projects sponsored by the A.M.W.A. The president, Dr. Julia Ford Hill, reported on the importance of equal opportunity for admitting women to medical schools and as interns in accredited hospitals. Dr. Helen Johnston explained the need for increased dues to maintain a full time secretary and some of the difficulty with the scholarship funds. There are now five centers open to women in addition to those open to both men and women. Dr. Ethel Shephard Dana of Ottumwa gave her observations concerning the N. Y. Infirmary for Women. Mention was also made of the awarding of the Elizabeth Blackwell Citations honoring outstanding achievements of women physicians.

The officers elected for 1950-51 are Dr. Emma M. Ackermann, Sioux City, president; Dr. Maryelda Rockwell, Clinton, vice president and president-elect; Dr. Jean Jongewaard, Jefferson, treasurer; and Dr. Joyce Perrin, Des Moines, secretary.

Woodbury

The regular meeting of the Woodbury County Medical Society was held May 18 at the Martin Hotel in Sioux City. "Practical Aspects of Dermatology" was the subject of the guest speaker, Dr. James Webster, associate professor of dermatology, Northwestern University School of Medicine, Chicago.

Wright

The last spring meeting of the Wright County Medical Society was held Tuesday, May 2, in Clarion. Dr. R. D. Bernard, the new general manager of the Iowa State Medical Society who will take office June 1, was presented by the Society with a wrist watch in recognition of his long services to organized medicine.

Dr. George E. Mountain of Des Moines presented a paper on "Coronary Thrombosis" and a new system of management involving personal relationship between the physician and patient.

PERSONALS

Dr. Robert M. Bartel of Detroit, Mich., has joined the staff at the Rohlf Memorial Clinic, effective June 1. Dr. Bartel was graduated from the College of Medicine at the University of Iowa in 1943 and completed his residency and internship at Toledo, Ohio. After two years in the army, he became associated with the Dearborn Medical Center in Detroit.

Dr. William R. Bates, Fort Dodge eye, ear, nose and throat specialist for more than 50 years, has retired and is making his home with a son in Alpine, Calif.

Dr. Arline Beal discussed "Sex Education at Home" at the third session of Parents' Family Life Institute May 4 in Davenport.

Dr. Ransom D. Bernard of Clarion has retired from practice and will take up his duties as general manager of the Iowa State Medical Society in Des Moines June 1.

Dr. Clyde A. Boice of Washington was honored by his county medical society April 28 when he was presented with a 50 year club pin in recognition of his 50 years as a practicing physician.

Dr. Raymond G. Bunge, professor of urology at the SUI College of Medicine, presented an exhibit of color photographs showing the method of detecting cancer by examining the cells of the urine and gave a paper on "Cytology of Transitional Cell Carcinoma" at the meeting May 29 of the American Urological Association in Washington, D. C.

Dr. Karl Catlin, head of the out-patient department at the Clarinda State Hospital, spoke on "Mental Health" at the annual spring meeting of the Bedford City Federation of Women's Clubs April 20.

Dr. Henry G. Decker of Des Moines was elected to membership in the Harvey Cushing Society, a neurosurgical group, at the recent meeting of the Society in Colorado Springs, Colo.

Dr. Ralph Dörner of Des Moines attended the meeting in April of the American College of Surgeons and in Denver gave a paper at the Thoracic meeting.

Dr. Norman Doss of Leon addressed the local Rotary Club April 3 on "Socialized Medicine."

Dr. George H. Finch of Des Moines has just returned from a postgraduate instruction course in cardiovascular diseases conducted at New York University-Bellevue Hospital, New York City.

Dr. Jack G. Haskell, who has been associated at Marengo with Dr. C. F. Watts for the past 10 months, has formed a partnership with Dr. H. V. Kahler at Reinbeck.

Dr. Norman Hepper of Des Moines spoke on "The Cancer Problem" April 24 to members of the Guthrie Center Lions Club.

Dr. Edward B. Hoeven discussed "Socialized Medicine" at a meeting of the High Twelve Club in Ottumwa May 3.

Dr. Carroll B. Larson has been appointed professor and head of orthopedic surgery in the SUI College of Medicine to succeed **Dr. Arthur Steindler** who retired January 1, 1949. Dr. Larson, who is now attending orthopedic surgeon at Massachusetts General Hospital, Boston, will assume his duties about August 1. Dr. Larson was born in Council Bluffs and was graduated from the SUI College of Medicine in 1933. Following an internship and two-year residency at Santa Clara County Hospital, San Jose, Calif., he began orthopedic training at Children's Hospital, Massachusetts General Hospital, remaining a staff member of that institution until the present time.

Dr. Joseph W. Lawrence spoke on "Socialized Medicine" to members of the St. Joseph Hospital Auxiliary at the meeting April 17 in the hospital auditorium in Dubuque.

Dr. Harold Margulies of Des Moines spoke on "Socialized Medicine" May 1 to the Iowa State Dental Assistants Association.

Dr. James T. McMillan has become associated with **Dr. Thomas A. Burcham** and **Allan B. Phillips** in the practice of radiology in Des Moines.

Dr. William Myerly has become associated with **Dr. Tom D. Throckmorton** in Des Moines. Dr. Myerly was graduated from the SUI College of Medicine and took his internship at Harper's Hospital in Detroit, Mich. For the past three years he has been at Methodist Hospital in Des Moines.

Dr. Robert L. Parker will retire July 1, 1950, as director of health of the Des Moines Public Schools. His successor will be **Dr. Lester B. Powell** of Des Moines. In appreciation for his services Dr. Parker was presented with the following resolution:

WHEREAS, **Dr. Robert L. Parker**, Director of the Department of Health since 1941, will retire from this position at the end of the school year, the Board of Education wishes to express to him their regret at his departure from the system and their sincere appreciation for his comprehensive understanding of school problems in general, for his consistently friendly attitude toward school personnel, and for his progressive stand toward maintaining and expanding the facilities of the Department at all times, and

WHEREAS, the Board of Education has been deeply impressed with his unusual devotion to his professional duties, and with the splendid contribution he has made to the entire health program of the schools,

BE IT HEREBY RESOLVED that **Dr. Parker** be requested to accept appointment by this Board of Education as DIRECTOR, EMERITUS, of the Department of Health, with the hope that we may continue to enjoy his wise counsel and his gracious spirit for many years to come, and that he accept our best wishes for his future success and happiness.

BE IT FURTHER RESOLVED that the foregoing Resolution be spread upon the minutes and that a copy be sent to our good friend, **Robert L. Parker**.

Dr. Fernando Perez of Santiago, assistant professor of internal medicine at the University of Chile, has joined the staff of the Methodist Hospital in Sioux City, where he will study American medical practices during an indefinite stay here.

Dr. Philip F. H. Pugh of Sioux City spoke on mental diseases at Franklin School in LeMars April 19.

Dr. Channing G. Smith of Des Moines has been named honorary president of the National D Club of Drake University.

Dr. Harold E. Sorenson of Graettinger leaves June 1 to enter a clinic at Eau Claire, Wis., where he will have charge of orthopedics.

Dr. Fred Sternagel of West Des Moines will speak on "Socialized Medicine in the United States" at a public meeting in the American Legion Hall in Mitchellville.

Dr. Janis Straumnis, a Latvian displaced physician, surgeon and urologist, has joined the staff at the Glenwood State School. Dr. Straumnis was graduated from the University of Riga, Latvia, and for 10 years managed the urologic clinic of Riga City Hospital.

Dr. P. E. Stuart of Nashua was honored by a banquet and reception April 13 sponsored by the Lions Club in celebration of the fiftieth anniversary of the opening of his practice there.

Dr. V. W. Swayze has been appointed city health physician of Muscatine, succeeding **Dr. B. E. Eversmeyer** who has held the post since 1943.

Dr. R. L. Barnett has been appointed Atlantic city health physician, succeeding **Dr. Millard Petersen** who resigned recently.

The medical staff of the Allen Memorial Hospital on May 11 celebrated the twenty-fifth anniversary of their hospital at Waterloo. The anniversary was marked by case presentations, conferences and a staff dinner meeting. The guest speaker at the dinner was **Dr. Adolf Sahs**, professor of neurology at the University of Iowa College of Medicine.

DEATH NOTICES

Beam, Watson Wilna, 92, died April 11 at the Lutheran Hospital in Fort Dodge, having been in failing health since his retirement from active practice in 1938. Born in Tama County, Iowa, the son of a physician, Dr. Beam was graduated from the University of Iowa medical school in 1886. He practiced in Rolfe for more than 50 years. He was a life member of the Pocahontas County and Iowa State Medical Societies.

Buckley, Charles Eugene, 73, died April 22 at his home in Blockton, where he had practiced since 1939. He was graduated from Dearborn Medical College, Chicago, in 1907. He practiced his profession in Chicago for three years before moving to Kansas in 1910. He was a life member of the Taylor County and Iowa State Medical Societies.

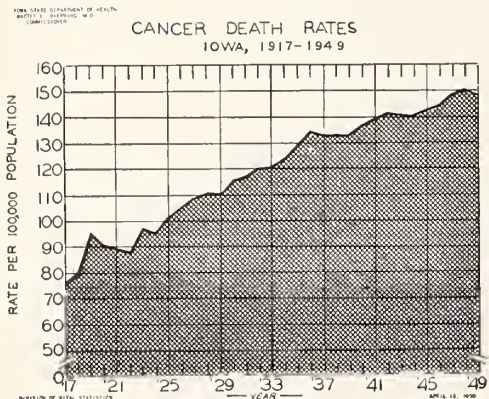
Hill, James Charlesworth, 72, Newton physician for 43 years, died at Methodist Hospital in Des Moines April 23 from a heart ailment. Dr. Hill was graduated from the Rush Medical School, Chicago, in 1905 and served his internship at St. Joseph (Mo.) Hospital and the Presbyterian Hospital in Chicago. He was a member of the Jasper County and Iowa State Medical Societies.

Waterbury, Charles Arthur, 75, a practicing physician in Waterloo for 44 years, died April 29 at Allen Memorial Hospital of carcinoma. Born in Cedar Rapids, Dr. Waterbury was graduated from Hahnemann Medical College, Chicago, in 1899, locating in Waterloo in 1900 where he practiced until his retirement in 1944. He was a life member of the Black Hawk County and Iowa State Medical Societies.

Watkin, Clifford Ray, 60, died April 15 at his home in Sioux City after an illness of several weeks. Born at Parkersburg, Dr. Watkin was graduated from Rush Medical College, Chicago, in 1914 and served his internship at Presbyterian Hospital in Chicago. He had practiced in Sioux City since 1916. He was a member of the Woodbury County and Iowa State Medical Societies.

STATE DEPARTMENT OF HEALTH
(Continued from page 271)

We must continue and extend our program of vaccination in infancy and revaccination at the time of starting to school. Adults with only one previous vaccination should have another if the first vaccination is more than five years old. We must remember that smallpox protection is as necessary at home as it is for travel abroad.



MORBIDITY REPORT

Diseases	Apr. '50 Mar. '50 Apr. '49			Most Cases Reported From
	Apr. '50	Mar. '50	Apr. '49	
Diphtheria	1	4	3	Carroll
Scarlet Fever	22	53	83	Cass, Polk, Sioux
Typhoid Fever	0	0	1	.....
Smallpox	2	0	0	Appanoose
Measles	2,945	2,818	393	Black Hawk, Clinton, Linn, Story
Whooping Cough	69	49	15	Black Hawk, Des Moines, Polk
Brucellosis	15	17	37	Buchanan (3), Dickinson (2), others scattered
Chickenpox	626	324	515	Dubuque, Des Moines, O'Brien, Story
Influenza	4,267	780	0	Clinton, Jones, Sioux
Meningitis, men.	3	6	3	Allamakee, Buchanan, Muscatine
Mumps	907	367	600	Benton, Mahaska, Montgomery
Pneumonia	16	15	13	Boone, Guthrie, Polk
Poliomyelitis	8	5	8	Calhoun (2), Humboldt (2), others scattered
Rabies in Animals	52	20	39	Polk (14), Story (5), others 2 and 1 cases to a county
Tuberculosis	81	41	108	For the State
Gonorrhea	49	62	67	For the State
Syphilis	223	165	221	For the State

NEWS NOTES

(Continued from page 275)

At present, more than 600,000 Iowans are members of Blue Cross. Previously, membership in Blue Cross-Blue Shield has been limited to employed groups of six or more. The executive director of Blue Cross, for the Des Moines Plan's area, said, "Self-employed Iowans and people working in small establishments were not able to participate in these health care benefits. Under the new setup, we can serve these additional thousands of people, bringing the day closer when our goal of a million Iowa members will be reached."

In an address to the Iowa State Medical Society during the Burlington centennial convention, Dr. Walter L. Bierring said the Blue Cross and Blue Shield movements have "changed the thinking of people in regard to federal control of medical care more profoundly than any other agency."

SPEAKERS BUREAU RADIO SCHEDULE

WSUI—Tuesdays at 11:30 a.m.
WOI—Thursdays at 11:15 a.m.

- May 30-
- June 1
- June 6- 8
- June 13-15
- June 20-22
- June 27-29
- Some Important Causes of Marital Maladjustment
- David R. M. Harvey, M. D., Iowa City
- How to Eat When It's Hot
- (Mrs.) Helen Lovell, Nutritionist, State Department of Health, Des Moines
- Summer Diarrhea
- D. K. Bengt, M.D., Dows
- Rabies in Iowa
- Irving Borts, M.D., Iowa City
- Prevention and Early Diagnosis of Polio
- Priscilla Boekelheide, M.D., Riverside

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RAGWEED POLLINOSIS; SOME PRACTICAL CONSIDERATIONS

Milford E. Barnes, M.D.,* and
Roland Rooks, Ph.D.,* Iowa City

In dealing with patients allergic to ragweed pollen, all too often the physician thinks first of palliative or other types of therapeutic measures. The need for drug therapy, however, is contingent upon the degree of allergic response to pollen as manifested by the individual patient. This, in turn, reflects the pollen dosage to which that patient may be subjected. Obviously, therefore, primary consideration should be directed to the problem of reducing the pollen exposure. The extent to which this exposure is successfully controlled will give some indication as to the degree to which drug or other therapy may be needed. In other words, therapeutic measures should supplement and not supplant those designed to reduce the patient's exposure to pollen.

Intensity of Pollen Exposure

The published daily ragweed pollen counts afford only a rough indication of the dosage to which individuals in the community are subjected. The site chosen for sampling atmospheric pollen, its distance from ragweed plants, the direction and velocity of prevailing winds vary considerably between city and city. Even on a local basis these collecting sites may differ in the above-mentioned respects from conditions at the homes of allergic individuals in that community.

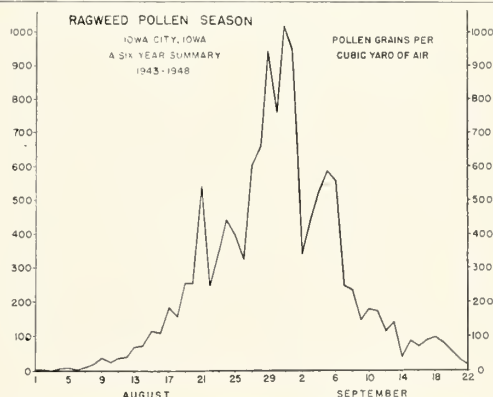
All published pollen counts are or should be based upon standard sampling procedures. At present such counts give the number of granules of ragweed pollen found within a measured area on a vaseline or glycerin jelly coated glass slide exposed for 24 hours in a standard gravity sampling device. The device now in general use was designed and described by Durham,¹ who also worked out experimentally a factor whereby the readings can be expressed as granules of ragweed pollen per cubic yard of atmospheric air.

*Department of Hygiene and Preventive Medicine, State University of Iowa.

Heretofore these counts have been calculated on one of three bases, equivalent values of which are given in the following sentence. A hay fever day is one on which the ragweed pollen granules equal or exceed 50 granules per cubic yard of atmospheric air or 25 granules per 1.8 square cm. on the collecting slide or 14 granules per 1.0 square cm. on the collecting slide.

The published counts give some indication of the beginning and the end of the season of pollination. They show also the extraordinary rise to and decline from a peak pollen concentration in the atmosphere. This is shown in table 1.

Table 1. *Ragweed Pollinosis*



The data upon which figure 1 is based were collected from a sampler erected on the topmost ledge of a tower on the Medical Laboratory Building in Iowa City. This site is 75 feet above the ground, is well above the tops of nearby trees, has no obstructions to air currents from any direction, and is approximately 300 yards from any known patches of ragweed.

The readings taken at this particular site represent the minimum number of pollen granules to which all individuals in that community are subjected.

The actual exposure of a given individual may be much higher than would be indicated by the official pollen count. For example, in studying the exposure of an allergic individual who lived near a sizable ragweed patch, a standard collecting

device was erected in the yard of the residence, 5 feet above the ground, and approximately 60 feet from the nearest edge of the ragweed patch. A moderate breeze blew on that day from the weeds toward the residence. The slides exposed at this residential site indicated a pollen concentration of 2,800 granules per cubic yard of air, whereas the count at the site on top of the Medical Laboratory Building approximately 2 miles distant was 680 on that same day. The patient spending 24 hours in that residence on that date received approximately four times the dosage indicated by the official pollen count.

Hourly Variation in Atmospheric Pollen

A stepladder was erected as nearly as possible in the middle of the above mentioned ragweed patch at a height of 6 feet above the ground, thus bringing it definitely above the level of the tallest weeds. Slides were exposed on the top of this ladder and changed hourly from 6 a.m. to 6 p.m. on a day on which there was practically a dead calm and a cloudless sky. Somewhat similar serial observations using the standard sampler were made at the Medical Laboratory site where slides were exposed over a 7 day period, one slide being provided for each of the following time intervals: 6 a.m. to noon; noon to 6 p.m.; 6 p.m. to midnight; midnight to 6 a.m. The results showed that of the total granules collected over 24 hour periods, 53 per cent were deposited on the slides between 6 a.m. and noon, 23 per cent from noon to 6 p.m., 14 per cent from 6 p.m. to midnight, and 10 per cent from midnight to 6 a.m.

These data indicate that despite the fact that approximately three-fourths of the pollen is thrown into the air by the weeds in the daylight hours, the night air may contain large doses of pollen. Thus protection of the individual must be on a 24 hour basis.

Number of Pollen Granules Inspired

The number of pollen granules inspired by an individual is not a direct multiple of the number reported per cubic yard of air. As has been pointed out, the total pollen fall occurs at varying rates. For ease of calculation we have used 50, 25, 15 and 10 per cent of the 24 hour pollen fall to indicate its distribution over the four 6 hour periods mentioned above. An adult at rest throughout the 24 hour period, exchanging air at the tidal rate (350 cc. per respiration) and with an average respiration rate of 18 per minute, will inspire a total of a little less than 12 cubic yards of air per 24 hours or an average of a little less than 3 cubic yards each 6 hour period.

Calculated thus, on a hay fever day (50 granules per cubic yard of air) a resting individual

will inspire a minimum of 75 pollen granules between 6 a.m. and noon, 38 more by 6 p.m., 22 more prior to midnight, and 15 more before 6 a.m., or a total of 150 ragweed granules during the 24 hours. At the residence mentioned above (pollen count 2,800) the patient during the successive 6 hour periods would inspire 4,200, 2,100, 1,260 and 840 or a total of 8,400 granules in 24 hours. The corresponding total for the Medical Laboratory (pollen count 680) site on that day was 2,040. These are minimum doses for an adult at rest. Activity of the patient would necessitate deeper and more rapid breathing, thus increasing the dosage which would be inspired. If we assume that the average active adult will inhale 15 cubic yards of air in 24 hours, the total approximate pollen intake would be proportionately increased.

Incidentally, it is appropriate to point out that desensitization of an individual so that he may take care of 150 pollen granules is one thing. Desensitization against 8,000 or more granules is quite another thing. The same remarks apply to the use of antihistamine and other types of drugs.

The Pollen Season

In Iowa ragweed pollen begins to appear usually during the first week in August. By August 10 to 15 its atmospheric concentration usually reaches or exceeds 50 granules per cubic yard of air and the hay fever season thereupon begins. The pollen concentration increases by leaps and bounds to reach a peak late in August. In Iowa City the observed peak days over the last seven years have been as follows: Aug. 21, 1948; Aug. 29, 1943 and 1944; Aug. 31, 1946 and 1949; Sept. 1, 1945 and 1947. Thereafter the concentration falls precipitously and usually by September 20 is below the clinical level in so far as out-of-doors pollen is concerned. These dates probably differ only slightly in other areas in Iowa.

The Hay Fever Season

The hay fever season does not necessarily end when ragweed pollination ceases. Many patients continue to suffer until frost. Inasmuch as pollination has fallen to a low level long before, frost probably has little or nothing to do with it. They suffer until the pollen within their homes has been removed from those surfaces whence it may be stirred up by air currents in quantities sufficient to induce symptoms.

A house with open doors and windows during the pollination season (August and early September) is a ragweed pollen trap. Carried into the house upon the breeze the granules settle therein upon every surface. Everything out-of-doors during this period is covered with ragweed

pollen. During the pollen season household laundry hung outside to dry, garden flowers, the pet dog or cat allowed out-of-doors, the garments of persons who work or spend hours out-of-doors, all of these add their quota of pollen when they enter or are brought into the house. Through these means the indoor pollen may continue to plague the victim for a considerable period, although there may be no pollen in the out-of-doors air.

This settled pollen may become air borne within the house as the result of any activity which sets up air currents, such as bed making, dusting, broom sweeping. Such activities may stir up enough pollen to equal temporarily the dosages encountered during the height of the season, as is shown in table 2.

Table 2.—Homes and Buildings as Pollen Traps; Ragweed Pollen Granules at the Close of the Pollen Season—1948

Location	Sampling Conditions	Pollen Granules per Cubic Yard Of Indoor Air	Pollen Granules Per Cubic Yard Of Outdoor Air
Classroom Sept. 29	After dusting instructor's desk and table with dry dusting cloth.	378	7
Residence No. 1 Sept. 29	After broom sweeping rug of living room for 30 seconds.	108	7
Residence No. 2 Oct. 4	After broom sweeping rug of living room for 30 seconds.	81	0
Residence No. 3 Oct. 5	After broom sweeping rug of living room for 30 seconds.	54	0
Residence No. 1 Sept. 29	After use of vacuum cleaner on living room rug for five minutes.	27	0

Once the pollen is within the house, it is difficult indeed to remove it, because the granules may have settled on walls, and anything thereon, on furniture, curtains, beds, floors. Granules which may have settled on carpets and rugs commonly subjected to vacuum cleaning are gradually removed thereby. We subjected to severe tests a well known bag type vacuum cleaner and a type in which the dust is wetted by water. In 10 readings made with each type perfect results were attained; that is, all of the pollen granules were retained within the bag or the water. Thus these devices help to remove pollen granules from rugs and carpets.

Despite cleaning methods settled pollen may remain in a room for prolonged periods. On April 19, 1949, we set up an exhibit for the Iowa State Medical Society in a prominent hotel in Des Moines. A cubic yard of air was drawn through an electrostatic collection device to ensure that it was working satisfactorily. Out of curiosity we examined the slide and found a number of ragweed pollen granules thereon. Obviously, these originated during some previous season. If that season was 1948, a period of almost seven months

had elapsed during which interval the exhibit rooms must have been cleaned many times. The granules could have been carried in on the panels set up for the exhibit, but these panels no doubt had been used repeatedly in conventions.

This observation, which can be repeated in practically any office or house in the ragweed belt if the doors and windows have been kept open during August, suggests the possibility that ragweed pollen may play an important role in some individuals who are allergic to house dust.

Reducing the Exposure to Pollen

Reduction of the exposure of an individual to pollen may be accomplished by several practicable methods: These are: (1) removal to a low pollen area; (2) setting up and maintaining a low pollen refuge; (3) wearing a suitable mask while outside of the refuge.

1. *Removal to a low pollen area.* This measure, relatively the most expensive, may be beyond the patient's financial reach or for other reasons may be impossible. Durham^{2,3} has published maps which show the areas completely free from ragweed pollen.

2. *Maintaining a low pollen refuge.* If an allergic individual can live or at least sleep in a low pollen refuge, the total pollen dosage can be greatly reduced. The authors have reported elsewhere⁴ a successful attempt to provide such a refuge. It requires that only pollen-free air enter the refuge and that all other paths whereby pollen may enter, such as those mentioned above, be controlled. This refuge may be a room, or it may and preferably should be the entire house.

To ensure that only pollen-free air enters the refuge, all windows and doors must be kept closed at all times, and the entering air must be freed of its pollen content. This can be done by passing it through suitable filters or by electrostatic precipitation. For less than \$100 window type filters are available, some of which are very efficient. Two such installations have sufficed to convert a 6 room house into a pollen-free refuge.⁴ In houses whose heating plants include a blower it should be possible to install a double barrier of filters and thus draw and filter outside air for distribution through the house by the blower. For those who can afford the cost, the outside air may be freed of its pollen by electrostatic precipitation before being distributed through the house. It cannot be too strongly emphasized that pollen must be kept out of the refuge. Once it enters the refuge, it is difficult indeed to remove. A word of caution is in order concerning the claims of agents as to the efficiency of their filters. As a rule, those approved in the *Journal of the Amer-*

ican Medical Association can be relied upon. One should not overlook the fact that the filter elements need to be changed.

Incidentally, every hospital in ragweed areas should have one or more pollen-free rooms to care for allergic patients who may suffer from other conditions during the months of August and September. In one hospital room protected only by a window-type pollen filter the readings shown in table 3 indicate the almost complete freedom from pollen despite the high doses in the outside air on these same dates.

Table 3.—The Filtering Efficiency of the Window Type Pollen Unit—University Hospital (Ragweed pollen per cubic yard of air)

	Room W-318 (With Unit)	Room W-320 (Without Unit)	Outdoor Pollen Count
Aug. 31	0	68	395
Sept. 1	0	61	118
Sept. 2	0	25	182
Sept. 3	0	11	150
Sept. 4	0	50	104
Sept. 5	0	32	200
Sept. 6	3	29	298

3. *Use of masks against pollen.* By wearing a simple face mask while out-of-doors, the allergic individual will be able to greatly reduce the pollen exposure. The "Curity" masks as tested by us have proved to be excellent pollen filters. Because of their low cost, a plentiful supply can be made available to every sufferer. Even though it may not be possible for the individual to wear them at all times while outside of the refuge, during the time they are worn they effectively remove the pollen from the air inspired.

By establishing a low pollen refuge to which the allergic individual may retreat and where he or she may sleep, and by the judicious use of face masks, the total daily pollen exposure even during the worst ragweed seasons and in the worst ragweed areas can be kept at a low and oftentimes even a subclinical level.⁴

Under such conditions antihistamine and other drugs may still be needed to take care of symptoms due to unavoidable exposures. The need for them will be greatly reduced, however, and their relative value will be greatly enhanced because reduction in pollen dosage reduces also the task which these drugs are intended to perform.

Summary

This article points out the importance of placing primary emphasis upon measures designed to reduce the pollen dosage of individuals allergic to ragweed pollen, reserving for drugs or other therapy a supplementary role.

Among the points presented are the following:

1. The six year average intensity and duration of atmospheric ragweed pollen is shown for a small city (Iowa City) considered as typical of a high pollen area.

2. The diurnal pattern of pollen fall is shown

for sequential six hour periods beginning and ending at 6 a.m. to be approximately 50, 25, 15 and 10 per cent, respectively, of the total pollen collected over a 24 hour exposure.

3. Using this pattern the 24 hour pollen intake of a resting adult is calculated to be not less than 150 granules on an initial hay fever day. On the same basis the daily intake near a ragweed patch may be 8,400 granules or more.

4. The house as a pollen trap, and the ways whereby pollen enters it are discussed. Data are presented showing the possibility of heavy post-seasonal dosages within houses and offices; and the prolonged persistence of this residual pollen.

5. The importance of creating and maintaining a low pollen refuge in the home and at hospitals in hay fever areas is pointed out.

6. Data are presented showing that certain window-type pollen filters can be used to maintain a pollen-free refuge.

7. The role of face masks of a simple type in reducing pollen dosage is discussed.

8. The efficiency of vacuum cleaners in removing pollen granules is discussed.

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Table 1. Ragweed Pollinosis.

WHAT THE GENERAL PRACTITIONER SHOULD KNOW ABOUT BRONCHIECTASIS

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Bronchiectasis is a common disease which has been overlooked, wrongly diagnosed and poorly treated by a majority of medical men for many years. Too often children with typical pictures of bronchiectasis have been diagnosed as chronic bronchitis or their parents have been told that the child's cough was habitual and that he or she would eventually outgrow it. Aside from the physical condition, with its detriment to good health, the disease causes a great psychologic stress on its victims. Churchill¹ pointed this out a number of years ago as a plea for surgical intervention, showing how the untreated patient suffers strong social stigmata which change his personality and in not a few cases leads to suicide.

The pathologic lesion was first described by Laennec² in 1819, and since the introduction of the use of iodized oil by Sicard and Forestier³ in

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1922 it has been possible to outline the bronchial tree to demonstrate the dilated portions.

This disease will be discussed in order to make the general practitioners more aware of the condition so that any patient of theirs with bronchiectasis may have the benefit of proper therapy.

Etiology and Pathogenesis

Bronchiectasis begins early in childhood with a large percentage of cases beginning in the first year or two of life. There is evidence to suggest that some cases may be congenital in origin. Most of the cases follow pertussis, pneumonia, measles or a combination of these respiratory infections. It is believed that with pneumonia an ulceration of the bronchial mucosa occurs. The secretions from the ulcerated areas may block the bronchi, causing collapse of the associated pulmonary tissue. (The bronchi in infants are small and more easily blocked than those of adults.) With the nonaeration of the alveoli there is dilation of the bronchi. If re-aeration does not occur, infection of the bronchial wall results, with destruction of the cartilages, muscles and other supporting tissues. As fibrosis occurs the bronchi are still more susceptible to the pressure change within the chest and the dilation becomes more severe.⁴

Symptoms

Cough is the outstanding symptom. In all cases except so-called dry bronchiectasis the cough is associated with the production of mucopurulent sputum. The characteristic sputum is thick, greenish material (pea-soup sputum). It must be remembered that almost all children up to the age of 7—and even many adults—will swallow their sputum. The cough is stimulated by the shifting of pus in the dilated bronchi. Consequently the cough is more severe in the mornings upon arising and at night shortly after lying down. The quantity may vary from small amounts up to as much as one pint in 24 hours. If an acute respiratory infection should supervene, the sputum is increased. The sputum in many cases has an offensive odor.

Hemoptysis is another frequent symptom. It is not common in children but occurs frequently in adults. In a series of 160 cases of irreversible bronchiectasis in children reported by Field⁴ it occurred in 6.9 per cent of the cases. However, in adults the incidence of hemoptysis has been found to be much higher (over 25 per cent in Bradshaw, Putney and Clerf's series).⁵ In fact, bronchiectasis is probably the most common cause of hemoptysis in adults, ranking well above tuberculosis and bronchogenic carcinoma.

Wheezing is another fairly common symptom,

particularly in children. Dyspnea is seen in far advanced cases or associated with complications.

Physical Findings

There are relatively slight changes in weight and growth in children with bronchiectasis. For the most part these children are underweight, but this finding is not too striking. Many of the children have postural defects, chiefly rounded shoulders, lordosis and a protuberant abdomen. Not infrequently chest deformities are seen.

Clubbing of the nails is seen in a high percentage of cases with irreversible bronchiectasis. It was seen in 43.7 per cent of Field's⁴ cases in children. In my experience the incidence runs much higher when the adult patients are also considered.

Examination of the Chest

One must not depend on physical examination for the diagnosis of bronchiectasis. There may be localized rales best heard after coughing. But in many cases auscultatory and percussion findings are completely absent.

Diagnosis

Diagnosis is dependent on a summation of the facts obtained from the history and physical examination. History alone will give the proper lead in most cases. Any patient with a history of cough, particularly on arising and upon retiring, associated with pea-soup sputum (if this is not swallowed), with or without clubbing of the fingernails (with or without additional symptoms), is entitled to, and should have, bronchograms to rule in or out bronchiectasis.

It is to be emphasized that bronchiectasis cannot be diagnosed by routine (plain) x-ray films. One may in some cases see areas of atelectasis, increased bronchovascular markings or cystic spaces on the plain films strongly suggesting this disease. However, the diagnosis can be made definitely only by instilling iodized oil into all of the branches of the tracheobronchial tree.

Technic of Bronchography

There are various means of instilling the iodized oil. Some of these methods include (1) dripping of the oil over the base of the tongue after anesthetizing the throat, (2) passing a catheter through the vocal cords during bronchoscopy or as a separate procedure, and (3) injection of the iodized oil via a needle and syringe directly into the trachea just below the cricoid cartilage. It is not wished to start a controversy extolling one of these methods over another. Each operator may choose his own means of introduction of the oil. It should be emphasized that patients should be positioned in such a way that the oil will out-

line all of the bronchial tree. It is preferable that only one lung be mapped at a sitting. However, to expedite matters both lungs can be mapped at the same sitting. The x-ray films should be taken promptly after introduction of the oil. If one side only is mapped, the films should be a posterior-anterior, a lateral and an oblique (right anterior oblique for the left lung and left anterior oblique for the right). If both sides are mapped with the same injection, a posterior-anterior and each oblique should be made.

With these exposures one can pick out each branch of the bronchial tree involved.

Types of Bronchiectasis

There are three main classifications of bronchiectasis: namely, tubular, fusiform and saccular. The names are more or less self-explanatory. The saccular type is believed to be the most advanced lesion and generally is associated with the largest amounts of sputum.

Prognosis in Untreated Bronchiectasis

Untreated bronchiectasis is a serious disease. Numerous surveys show that a high percentage of patients who develop bronchiectasis early in life will be dead of their disease before the age of 40 years. This was true of 22 of 38 cases (58 per cent) of a series studied by Fox.⁶ Of 12 patients studied by Findlay and Graham,⁷ up to 12 years after onset 9 had died (75 per cent). Of 101 patients with bronchiectasis treated conservatively and followed for a period of three to six years by Roles and Todd,⁸ 38 per cent terminated fatally.

In a large series of cases studied by Perry and King⁹ it was found that of 96 patients in whom the disease developed before the age of 10 years, only 35 per cent lived more than 20 years after the onset and 9.4 per cent 30 years or more. These reports along with many others in the literature emphasize the fact that untreated bronchiectasis is a dangerous disease.

Chief Complications

Recurrent pneumonia, otitis media, lung abscess, empyema, nephritis, amyloidosis and brain abscess are the most common.

Treatment

Preventative:—Obviously the use of immunization against whooping cough should be routine. All infants and small children with respiratory infections, particularly those listed above, should be watched carefully with the thought that they are potential candidates for bronchiectasis. Help should be given to prevent or overcome atelectasis. The inhalation of steam, positioning of the child to facilitate better drainage of a blocked segment, medications to cut down on secondary

infection should all be used. The British, in particular, recommend slapping of the chest to help loosen the thick secretions blocking bronchi. Clearing up of allergies to eliminate asthma may prevent some cases from developing bronchiectasis.

Surgical:—After bronchiectasis becomes irreversible (early dilations may be converted to normal by the above measures) there is no hope for a cure except by surgery. Until the development of one stage lobectomy by Brunn¹⁰ in 1929 treatment was largely palliative. Since Brunn's pioneer work there have been great strides in improvement of thoracic surgical technics, a great expansion in knowledge of thoracic anatomy (with many of the major contributions to this field being made by the surgeons themselves), and advances in anesthesiology, so that what at one time was a formidable procedure has been reduced to an operation carrying little mortality. Large series of lobectomies and other pulmonary resections for bronchiectasis are found in the literature with low mortality figures. Meade, Kay and Hughes,¹¹ for instance, reported a series of 196 cases with only one death. The mortality and morbidity rate from surgery is so low that the risk of a patient keeping his bronchiectasis (and being a candidate for complications of the disease) is far above the risk of surgery. The viewpoint has now changed so that the grave question "Must I have surgery?" has been changed to "Is there sufficient lung tissue not involved by bronchiectasis to allow surgery to be carried out?"

The treatment as indicated above consists of resection of the involved portions of the lungs. After careful study of complete bronchograms one can determine all diseased branches. The left lower lobe (frequently with the lingula of the left upper lobe) and the right middle and right lower lobes are usually the most frequently involved. The upper lobes or some of their segments may be involved (again emphasizing the necessity for complete bronchograms).

As mentioned earlier the thoracic surgeon's problem is to determine if sufficient normal lung tissue will remain to sustain the patient satisfactorily after extirpating the bronchiectatic portions.

At first only unilobar cases were chosen. But as improvement in technic advanced more and more lung tissue was removed. In 1939 Churchill and Belsey¹² pointed out the importance of removing the lingula of the left upper lobe along with the left lower lobe when the former was also found to be involved. And in 1940¹³ Graham reported a patient from whom all pulmonary tissue except the two upper lobes was successfully removed.

This much surgery may sound startling to those not too well acquainted with thoracic surgery. However, many patients have been restored to health by similar surgery since Graham led the way. I can recall at least 6 such cases in my own operative experience.

Since Churchill first described segmental resections other surgeons have contributed to this subject. (By *segmental resection* is meant the stripping of involved portions from an otherwise normal lobe.) Segmental resections make their greatest contribution in bilateral cases where it is desired to save as much normal lung tissue as possible. This has advanced to such a degree that some patients have had parts of all lobes resected.

Summary

Bronchiectasis is a common disease which usually develops after pertussis, pneumonia or measles, or a combination of these diseases. During these diseases one must carry out procedures to avoid the development of bronchiectasis if possible. If bronchiectasis should develop, however, the patient should be studied with the thought of elimination of the disease by surgery. Surgery is urgent since a high percentage of patients who develop bronchiectasis before the age of 10 years are dead of the disease or its complications before the age of 40 years. The risk of lobectomy (even bilateral) or pneumonectomy is slight compared to the risk of the patient keeping his diseased lung tissue.

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EXPERIENCE WITH EXTRAPERITONEAL CESAREAN SECTION IN PRIVATE PRACTICE

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From the time of the earliest use of Cesarean section the problem of infection has been a prominent one. Obstetricians early recognized that the performance of a classic Cesarean section, any appreciable time after the onset of labor or rupture of the membranes, carried with it the risk of serious infection in direct proportion to the time elapsing. Any study of Cesarean section deaths 20 years ago will bear this out.

With the advent of the low cervical transperitoneal operation the danger of serious peritonitis was appreciably lessened due to the location of the uterine incision and the greater resistance of the pelvic peritoneum. However, patients are not infrequently seen who have been in labor many hours, making transperitoneal delivery by any technic dangerous. Cesarean hysterectomy has often been resorted to in the management of these cases, but as they are more often than not primigravida, one is always loath to eliminate the possibility of further childbearing.

One of the advances in modern obstetrics has been the simplification and clarification of the technic of extraperitoneal Cesarean section. Though Sellheim, Frank, Latzko and others were early leaders in the development of this approach, Waters^{1, 2} and Norton³ have added to the recent refinement of this type of Cesarean section and have shown the procedure to be practical and safe.

The fact that each succeeding hour of labor, ruptured membranes or a combination of the two, increases the probability of intrauterine infection has caused modern clinics to manage cases with this in mind. Dieckmann,⁴ at the Chicago Lying-In Hospital, has listed the following contraindications to transperitoneal Cesarean section: (1) labor over 24 hours; (2) ruptured membranes over 24 hours; (3) attempts at delivery by forceps of version; (4) induction of labor by bag, bougie or pack; (5) evidence of uterine infection; (6) more than 6 vaginal examinations; (7) more than 12 rectal examinations; and (8) dead or damaged fetus.

Few would disagree with many of these contraindications, but there is great difference of opinion as to how to manage patients who have gone beyond the above criteria. Dieckmann states that such patients should be treated by embryotomy or Cesarean hysterectomy when vaginal delivery is not possible. Randall,⁵ at the Mayo Clinic, has extended the use of the low cervical transperi-

toneal operation to include patients who have been in labor 48 hours or longer, relying on the antibiotics, chemotherapy and blood to overcome any peritoneal infection that may develop. Eastman⁶ has advocated the use of pituitrin in small repeated doses in cases of prolonged labor without disproportion. In such cases the judicious use of this drug has reduced the incidence of Cesarean section 50 per cent, and of mid-forceps, 60 per cent. The exponents of the extraperitoneal operation feel that it is the procedure of choice in the potentially or actually infected patient if vaginal delivery does not seem feasible. By waiting beyond Dieckmann's time limit, many patients can be successfully delivered by the vaginal route.

In the past few years several series of cases not meeting Dieckmann's requirements for transperitoneal section, delivered by the extraperitoneal route, have been reported. Keettel and Randall⁵ and McCall⁷ have made recent contributions to this subject. The cases reported to date have practically all been managed in large institutions under the most optimum conditions. The following cases were personally managed in private practice in two small hospitals of 100 beds or less. This series is small and admittedly cannot in itself be significant, but is reported hoping that in a minor way it may aid in the eventual accurate evaluation of this procedure.

There were 21 patients in this series. All had been in labor a varying period of time, the shortest being 8 hours and 15 minutes and the longest, 105 hours, the average duration of labor being 58 hours and 41 minutes. Eighty-five per cent were in labor 24 hours or longer and hence did not meet Dieckmann's criteria. The membranes were ruptured prior to the operation in 15 patients or approximately 75 per cent. Twelve patients or 57 per cent had ruptured membranes for 24 hours or more. The longest period of ruptured membranes was 100 hours, the shortest 1 hour and 30 minutes, the average being 40 hours and 15 minutes. Ten patients or approximately 50 per cent had temperatures above 99 F. at the time of operation. No patients, however, were markedly febrile, the highest temperature being 100.6 F. All patients were carefully hydrated in the hours prior to surgery.

The indications were as follows: uterine inertia with prolonged labor, 11; transverse presentation, 2; uterine inertia with cephalopelvic disproportion, 4; cephalopelvic disproportion, 1; uterine inertia and toxemia, 1; and face presentation, 1. Ten patients or approximately 50 per cent had vaginal examinations prior to operation. Seven had been examined vaginally once, 1 twice,

and 2 three times. No attempts at delivery from below had been made. The average age of the 21 patients was 28 years, the oldest being 40 and the youngest 19. There were 17 primigravida, 3 Para I and 1 Para II.

The Waters' supravaginal technic was used in all cases. The peritoneum was opened inadvertently during the dissection prior to incising the uterus in 5 cases or approximately 25 per cent. It was closed in all instances with a simple ligature. There were no bladder or ureteral injuries. All incisions were midline and were closed without drainage. This technic is admittedly somewhat time consuming, and this series is no exception. The average operating time was 1 hour and 20 minutes, the longest being 1 hour and 55 minutes, with the shortest being 1 hour. This operation requires more time from the initial incision until delivery of the baby than other types. In this series this time averaged 44 minutes, the longest being 65 and the shortest 23 minutes. Spinal anesthesia was used exclusively and was entirely satisfactory. It was given in all instances by a competent physician anesthetist. None of the infants required resuscitation, and this is believed to be largely due to the type of anesthesia.

There was no maternal or fetal mortality. Twenty-two babies were delivered, there being one set of twins. Post-partum oral temperatures were taken every four hours, and any elevation of 100.4 F. or over, excluding the first 24 hours, was considered febrile. By this criterion, the puerperium was febrile in 15 or 66 $\frac{2}{3}$ per cent. Six of the febrile patients had one day fevers. None of the fevers were of long duration, the longest being eight days due to a wound abscess. All patients were up and out of bed in the first 24 hours. Foley catheters were left in place for 18 hours following surgery, all patients voiding without residual upon removal of the catheter. Two patients had abdominal distention requiring nasal suction. In neither was there evidence of peritonitis. One of these patients has subsequently had an elective pelvic laparotomy, and she again developed an ileus necessitating nasal suction. One patient developed a wound abscess, and another had a severe dermatitis from penicillin. All patients were given this drug prophylactically immediately following surgery, and many had received it during the latter part of their labor.

The average hospital stay was 9 days, the longest being 17 and the shortest, 7. The patient staying 17 days was moving to Washington, D. C., and remained in the hospital until she felt able to make the trip from the Middle West to the East Coast.

Summary

1. Twenty-one extraperitoneal Cesarean sections done in two small hospitals in private practice on actually or potentially infected patients are reviewed.

2. There were no maternal or fetal deaths.

3. These results with the supravescical extraperitoneal Cesarean section are sufficiently satisfactory to justify its continued use in grossly or potentially infected patients requiring abdominal delivery.

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THE MANAGEMENT OF CLEFTS OF THE LIP AND PALATE

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Cleft palate and harelip deformities have perhaps always occurred in the human race. As far back as the second century Galen knew it to occur among his people. The first operation for correction of this deformity was performed by LeMosier, a French dentist, in 1784.

The deformity results from a failure of the parts of the face and palate to fuse and it occurs sometime between the third and tenth prenatal weeks. In more recent studies it has been found to occur about once in from 600 to 700 births and more frequently in males than females. It is found in all classes of people and in all races. There are many theories as to the cause of cleft, but the exact etiology is still unknown. There is a familial history of the deformity in about 60 per cent of the cases. Westlake recently has so aptly said that "it is not a visitation of the Gods."

The management of harelip and cleft palate patients has changed drastically during the last few years. In the past the chief aim was to repair the harelip as soon as possible after birth in order to save the family the embarrassment of an extremely unsightly deformity. The surgeon closed the opening of the palate without a great deal of regard as to function or growth of

the face. We have learned that the harelip and cleft palate patient presents problems which cover a period from birth to adulthood. Plastic procedures are only a part of the problem. Teamwork with the assistance of many specialists is necessary if the patient is ultimately to be rehabilitated.

The immediate care of the infant born with a harelip and cleft palate or both usually becomes the function of the general practitioner, obstetrician or pediatrician. Since harelip or cleft palate deformities are not of frequent occurrence, even the busiest practitioner can expect to see only a few during his professional career. When considered from such a viewpoint, physicians can hardly be expected to keep detailed information in mind from one case to the next.

Naturally the most immediate problem is the maintenance of the infant's nutrition. In a considerable percentage of cases a child with a complete cleft of both lip and palate will be able to take feedings from the breast or ordinary bottle. Thus the ordinary feeding methods are always worth trying.

Children who are unable to establish enough intraoral negative pressure to obtain food in one of the usual ways can often take a bottle satisfactorily if the perforations in the nipple are enlarged. This is easily done by making numerous punctures in the nipple with a heated large bore needle.

Infants who cannot be fed in one of the aforementioned manners will not always present difficult problems in nutrition as far as adequate intake is concerned but will require a great deal more care and time at each feeding. These babies can probably be fed most easily by the use of an ordinary rubber ear and ulcer syringe. The child is held on his side and the syringe is used to introduce small amounts of formula into the sulcus of the dependent cheek. Feeding in this way is tedious since each amount of fluid offered must be small enough to prevent choking or loss of food. An infant will learn in a surprisingly short time to maneuver his tongue and cheek so that the formula is carried into the pharynx.

It is extremely unusual to encounter a child who cannot be fed by one of the above procedures. In such a situation it is necessary to resort to gavage. In our experience the infant who must be tube fed almost invariably suffers from some other abnormality in addition to the obvious cleft defect. The necessity of forced feeding should lead one to suspect some cause such as damage to the central nervous system, esophageal stenosis or tracheo-esophageal fistula.

In spite of the large number of complicated

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devices recommended for the feeding of infants with cleft palates, we have yet to find anything as satisfactory as the simple methods we have described.

Parents will often be anxious to know how soon a congenital deformity can be repaired before the question of feeding procedures even enters their minds. They are naturally desirous of having a normal baby to show to friends and relations as soon as possible.

Some surgeons look upon a harelip as a semi-emergency and advise repair within the first few hours after birth. Although such an attitude may be the correct one, we prefer to approach the procedure less precipitously and nearly always defer operation until the child is 4 to 6 weeks old. We feel that there are numerous advantages to be gained from this delay, one of which is the certainty that we are not hurrying to do an elective procedure when some other condition might be present that more urgently demands attention or might even be incompatible with life. We believe that by the time a child is 4 to 6 six weeks old he is better able to withstand the hazards of anesthesia and blood loss; he should be beyond any tendencies to spontaneous hemorrhage or icterus neonatorum, should be taking his feedings well and should be gaining weight. If at 4 to 6 weeks of age a child has not at least regained his birth weight, is dehydrated, jaundiced or anemic, or has had a respiratory infection within the preceding two weeks, we believe that operation should be deferred even further until his condition can be brought to an optimal state.

The number of operations necessary to obtain the best possible results in harelip repair varies according to the type of deformity present. A unilateral harelip is nearly always repaired in one procedure. A bilateral harelip may require from one to three operations at intervals of from four to eight weeks.

Repair of the cleft palate must be much more individualized than the reconstruction of the lip, but a few general rules can be laid out. We hardly ever attack a palate cleft before the child is 18 months of age. At that time, if the patient is so fortunate as to present an extremely narrow cleft and an unusually long soft palate, a satisfactory one stage procedure may be done. On the other hand, if the cleft is overly wide or the soft palate is abnormally short, lengthening of the palate is indicated as much as is the closure of the midline defect. To gain optimum results a palatine repair of this type may require three or more stages. We believe that such extensive reconstruction of the palate should be deferred until a

child is from 3 to 5 years old. At that age the closure of a wide cleft is less likely to interfere with the normal growth of the maxilla; in addition such repairs often require the presence of the upper teeth as anchor points for retaining temporary postoperative appliances.

In the event of a cleft palate, as we have previously said, there are many special services required: (1) A clinical psychologist has the duty of advising and directing the parents in regard to the proper attitude toward the child and eventually inducing the child to accept his deformity. (2) The child's dentist or pedodontist must, during the long period until maturity, examine and care for the teeth. (3) The orthodontist has the duty of correcting irregularities of the teeth by orthodontic procedures. (4) The prosthodontist is called upon to construct certain appliances to improve the appearance and masticatory function of the patient and at times to fashion obturators to help in improving speech. (5) The speech pathologist has a long, tedious responsibility; many interviews with both parents and patient are necessary. In addition to speech training by the speech pathologist the mother must constantly work with the patient. (6) The audiologist may be an important member of the team. Many children with cleft palates have hearing losses and in some instances hearing aids are necessary. (7) The plastic surgeon is interested not only with the aesthetic side of the problem but with the function as well. We shall discuss briefly the special services required for the long range management of harelip and cleft palate.

Dental, Orthodontic and Prosthodontic Requirements

The dentist, the orthodontist and the prosthodontist all play an important part in treating the cleft palate patient.

Harelip or cleft palate children should be seen by a dentist every six months from the time they are 3 years old until they have a full complement of permanent teeth. The eruption of the first deciduous teeth usually appears about the eighth month, and from this point on it is important that the child receive special attention with regard to the teeth and dental arches. A full complement of 20 deciduous teeth is usually present at about 2 to 2½ years; however, in the case of a complete cleft we rarely see a child with the normal complement of teeth. It is usually found either that teeth are missing on the side of the cleft or that there are supernumerary teeth present. It is at this age that the teeth should be checked carefully and any caries taken care of immediately. Between the ages of 3 to 5 years children rarely lose any of their deciduous teeth

or erupt any of their permanent teeth. If some deformity in the growth patterns of the dental arches is noted at this time, it may be possible to correct it by means of an appliance. At about 6 years of age the child begins to erupt the permanent teeth and shed the deciduous teeth. Orthodontic treatment during the mixed dentition stages has its limitations, but there are certain corrections that can and should be made. Temporary prostheses such as those supplying missing maxillary anterior teeth to aid in esthetics and also to help stretch the upper lip are indicated at an early age.

A permanent prosthesis is never constructed until there are present a full complement of permanent teeth. It is usually necessary to have gold crowns constructed for some of the maxillary teeth in order to preserve them and also as an aid to retention of the prosthesis, especially when there is an obturator attached. An obturator is an attachment to the posterior end of the prosthesis which aids in securing nasopharyngeal closure. An obturator by definition is "a dish or plate, natural or artificial, which closes an opening." The main objectives of a prosthesis, either with or without an obturator, are (1) to improve esthetics, (2) to improve speech, (3) to aid in mastication by the addition of missing teeth, and (4) to obtain a division between the nose and mouth.

Speech Development in the Child With Cleft Palate

Most children born with cleft palate will have difficulty in developing understandable speech, the degree of difficulty being dependent upon many related factors. Putting aside for a moment the degree of the problem, why can it be predicted from the moment of the child's birth that he will probably have a speech problem? The answer is a matter of mechanics. All of the sounds of English speech with the exception of three, *m*, *n* and *ng*, are articulated or resonated in the mouth. This requires that there be a way of blocking the passage of air into the nasal cavity. This function is performed by the soft palate moving back against the back wall of the throat.

When a cleft palate exists there is no way in which the necessary closure can be made. The result is a nasal voice quality and few, if any, consonants other than *m* and *n*. For example, when a child with cleft palate says, "Mama," it will sound fairly normal, but "Daddy" is apt to sound more like "Nanny." The air stream must come through the mouth in order for the *d* sound to be properly articulated. In only rare instances will surgical repair of the opening be sufficient to make normal speech possible. Frequently the

muscle action is inadequately developed and requires training. In other cases there may be an insufficient amount of palatine tissue to make a closure. In such instances, "push back" or a lengthening operation is sometimes necessary; or a plate of plastic material is fitted into the back of the mouth. Following such procedures many years of patient effort on the part of the parents, the child himself, and the speech correctionist are required in order to train the speech mechanism to perform its normal function.

At the outset the parents must understand why their child's speech will probably not be normal, and, secondly, they must accept the problem emotionally, which sometimes is a large order. In accepting the child's speech the parents must: (1) make every effort to understand his first efforts to talk just as they would with any child, and (2) not be hypercritical of the child's speech or, in other words, expect a standard of speech from him not expected of the normal child.

Usually a child says his first word when he is about a year old, and by the time he is 18 months old he usually has a good many words in his vocabulary. Sometimes the early speech development of the child with cleft palate is somewhat behind schedule for one or several of the following reasons:

1. Because of feeding problems he may have been undernourished and hence prone to illness. If a child is ill he doesn't babble the normal amount; this is a part of speech development.

2. Because of illness or during repair of the lip or palate he may have been in a hospital away from the normal amount of speech stimulation.

3. He may have had ear infections which have reduced his hearing acuity, another factor necessary for speech development.

4. Children with cleft palates cover a wide range of intelligence just as do their brothers and sisters with normal palates. Occasionally a child with cleft palate is seen whose speech has not begun to develop at age of 3 although the hearing is normal and there have been no serious illnesses. Such a child should be referred to a competent psychologist for an evaluation of his intelligence.

When should speech correction begin? Before the cleft is repaired no actual speech correction should be attempted, but a great deal of speech stimulation can and should be provided. As good speech patterns as possible should be provided by the parents. The child should have stories read to him, particularly stories in which he can participate in the telling. From the beginning the child's speech must be accepted in the family circle and friends. The child must never learn to

fear ridicule of his speech from well-meaning but misguided adults. As soon and as skillfully as possible the speech process should be explained to the child—why his speech sounds “different,” that his mouth will be “fixed by the doctor,” and that he will have speech lessons from a special teacher just as soon as he is old enough. This requires a maximum of understanding on the part of the parents.

After the cleft is repaired his age will dictate when speech correction should begin. If he is just 3, he is old enough only for indirect speech exercises provided by toys that require blowing. When a whistle is blown the same muscle action takes place at the back of the throat as takes places when a *p* sound, for example, is articulated. Plastic windmills, bubble pipes or even little balls of cotton blown across a table provide the desired muscle action. Balloons are usually a bit too hard to manage. Caution must be taken to provide the sorts of things that the child will be successful in manipulating. If nothing happens he becomes discouraged. And it must be remembered, too, that first, last and always, we are working with a 3 year old child, not with a 3 year old cleft palate. Just because of his age he will play only a short time before he is off to something else. That's all right. Try again tomorrow and the many tomorrows to follow.

When a child is 5, speech correction can be begun under the guidance of a trained speech correctionist. The word guidance must be emphasized. The trained person can and should provide the exercises to be followed, but much of the practice must be done at home in much the same way that the music teacher provides guidance. Where the services of a speech correctionist are not available the child should be taken at stated intervals to one of the speech clinics where such service is provided. A bulletin entitled *Speech Training for the Child with Cleft Palate* can be secured by writing to the Department of Otolaryngology, State University of Iowa Hospitals, Iowa City, Iowa. Simple exercises are outlined here that have proved to be helpful.

The development of speech to the extent of the individual child's potentiality for attaining it is a difficult job and a challenging one. It can be and is accomplished where there is cooperative effort on the part of the parents, the surgeon, the speech correctionist, and the child himself.

It appears that a slightly greater percentage of children with cleft palates and harelips are deaf or hard of hearing than children with normal mouths. This is due in part to the child's lowered resistance to upper respiratory infections as

a result of feeding difficulties. Therefore the possibility that the child may also be hard of hearing must not be overlooked. A hearing loss must be strongly suspected if he appears to have unusual difficulty in learning to talk plainly, since it is impossible for an otherwise normal child to learn to talk plainly if he is hard of hearing. A complete medical examination of the child must include a test of his hearing.

Unfortunately, the younger the child the more difficult it is to test his hearing with desirable accuracy. Children under about 3 years of age usually are tested by means of different types of sounds such as whistles, bells, horns, drums and a loud voice. Reactions of the child to such noise makers are watched by trained observers. As soon as the child has developed sufficient vocabulary to recognize the names of the pictures of common objects such as a baby, a dog, a spoon, a shoe and the like, it is possible to test his hearing for speech with a reasonable degree of accuracy. The loudness with which such words are spoken can be controlled quite accurately by reproducing these words through a loud speaker from phonograph records or a microphone in a nearby room. The child is conditioned to point to a picture, the name of which he hears from the loud speaker or earphones, and his hearing is measured in terms of how much louder it is necessary to reproduce the words before he can recognize them than is necessary for children of the same age who seem to have normal hearing. This procedure makes it possible to test a child who may have good hearing but who has poor speech, assuming he is able to recognize the names and pictures of common objects. Older children (about 5) often can be tested with satisfactory accuracy by means of a pure tone audiometer, even if they are so hard of hearing they have not learned to talk because of their hearing loss.

Obviously, children with cleft palates and harelips who also are hard of hearing will have more difficulty in learning to talk plainly than those without a hearing impairment. Their speech training must be more carefully planned and may include the teaching of lip reading and the use of a hearing aid. Specially trained speech teachers are best equipped to teach lip reading and the use of the hearing aid. Just wearing a hearing aid will be of little value unless the child is trained how to use it most effectively.

Psychologic Aspects of the Harelip and Cleft Palate Patient

The birth of a congenitally handicapped child must be considered a psychologic as well as a medical problem. Indeed, much of the success

of the medical management of the handicap may depend heavily on how well the physician and his co-workers are able to understand and deal with the severe emotional impact of such an event on the child's parents and on the child himself as he grows older. This is particularly true when the handicap affects, as a cleft palate does, such a socially crucial activity as speech.

With the parents two approaches are of particular importance. On the one hand, they must have ample opportunity to express their feelings about having a handicapped youngster. On the other, they must be given an enlarged understanding of the child's needs. Since each set of parents will be in many ways unique, there can be no specific technics for attaining these goals. The clinical worker must adapt himself to the specific individuals with whom he deals. There are some general points, however, that have proved helpful.

In the first place, the birth of a handicapped baby is frequently considered by parents as a reflection of them, which enhances the possibility of their rejecting the child, acting in an aggressive or punitive way toward it, or overprotecting it and defending it against all possible difficulties in order to minimize attention to themselves as the parents of a deformity. To prevent the development of these tendencies to a point where they seriously interfere with the youngster's adjustment requires that the parents be allowed to clarify their feelings through talking with an understanding physician, clinical psychologist or social worker. In the course of such conversations it is usually necessary for the professional person to indicate that he understands that the situation represents a sizable hardship for the adults, but at the same time that a handicapped youngster requires more in the way of both love and encouragement to act independently than do other children.

The most important general suggestion that has proved to be of assistance in dealing with the psychologic aspects of cleft palate cases is that the child should not be taught that he is handicapped but that he has an additional challenge to meet and that he can meet it. He should receive all the help and support necessary to help him acquire distinctive skills in order to build up his self-esteem and status among his age mates. Psychologic examination is helpful here to determine his outstanding potentials that can be capitalized upon socially and educationally. Speech will be of the utmost importance from the standpoint of his social adjustment, and every effort should be made to provide opportunity for the child to work with a speech correctionist. Here

as in other areas of training it must be emphasized that remedial technics must be made as enjoyable as possible for him; the basic point of view is that he is not working in the negative sense to overcome a handicap but positively to build his personality and social facility. Third, except for the period during which he may be undergoing surgery, it is vital that the youngster not be kept out of social activities common to his age group but encouraged to participate fully. Parents can be particularly useful on this score if they will make the effort to let their child give parties or have other youngsters in his home for good times.

For the parents themselves, it is ordinarily rather important that they be encouraged to go ahead and express the feelings of hostility, discouragement and grief that they will almost inevitably experience from time to time. Occasional conferences with a clinical psychologist are usually helpful in relieving these emotional pressures. They must be taught that such feelings are quite acceptable and quite common to people in such an unhappy position. On the other hand they, too, must learn that they have a challenge to meet and that their youngster, normal at birth in every way except for his oral structures, is capable of living happily and making a proper social contribution. What they can do is to give him plenty of love and affection in order to build his sense of personal security and to make a conscious and deliberate effort to provide him with support and encouragement in coping with his problems in psychologically healthy ways. Their chief contribution, in short, is to be affectionate, sympathetic and understanding without robbing the child of his chances for independence by coddling him. Their second responsibility is to cooperate with reputable specialists in the fields of medicine, clinical psychology and speech correction, always from the point of view that their offspring is not receiving such attention because there is something "wrong" with him, but because in the light of his constitutional equipment it is necessary for him if he is to maximize his chances for social and psychologic well-being.

In short, the best parent practices in relation to a child with a cleft palate are precisely those that are best in relation to an orally normal child except that they should be pursued with somewhat greater consciousness and responsibility.

During the last year the Department of Otolaryngology and Oral Surgery has organized a Harelip and Cleft Palate Clinic. Each patient is seen by a surgeon, speech pathologist, dentist, orthodontist and prosthodontist, clinical psychologist and audiologist. The parents are required

whenever possible to accompany the patient to the hospital.

Let us emphasize again that rehabilitation for the child with a harelip and cleft palate is a long tedious program and requires the services and cooperation of various branches of medicine, dentistry, speech and psychiatry.

ERYTHROBLASTOSIS FETALIS AFFECTING ONE TWIN

Case Report

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Erythroblastosis fetalis occurring in one member only of a double ovum twin pregnancy has been reported several times, and it has undoubtedly been noted by many other observers. The explanation of such a combination—one erythroblastotic infant and one normal infant—is rather clear when the father is Rh positive heterozygous and the mother is Rh negative. Kariher,¹ Potter,² Adelman,³ Weiner,⁴ and Conti and Glenn,⁵ reported cases in which the Rh positive infant showed evidence of the disease whereas the Rh negative twin did not. Stratton, Langley, and Lister⁶ reported a case of hemolytic disease of the newborn causing death of one of the two Rh positive but different genotype fraternal twins.

Our case, resembling rather closely the cases of the first-mentioned authors, was thought to be perhaps sufficiently interesting to warrant reporting. This 39 year old multigravida Para V, white married female was first seen Dec. 31, 1948, and stated her last menstrual period occurred June 10, 1948. The preceding five gestations took place during her first marriage, and all children were reported normal at birth and all survived. The present pregnancy was the first to occur during this, the second marriage. During the third pregnancy in 1940 the patient experienced ante-partum bleeding from a cause unknown to her, and, subsequently, she received a post-partum transfusion of whole blood, which was followed by a questionable mild reaction.

Physical examination was not remarkable except for an unusually large uterus suggesting a multiple pregnancy, which was confirmed by x-ray.

The patient was found to be group O, Rh negative, and her present husband was first erroneously typed Rh negative but later was found to be group O, Rh positive, heterozygous DCE/dcE). Four of the children, including one born after the transfusion, were also Rh negative, but the first husband and other child were not available for typing.

Before an ante-partum titre for anti-Rh agglutinins was obtained, the patient was hospitalized for painless vaginal bleeding, found to be caused by placenta praevia. Accordingly, on the day of admission the patient was delivered by classic Cesarean section of a male infant weighing 2,520 gm. and a female infant weighing 2,295 gm.

At delivery the male appeared normal, but the female was pale with a large liver and spleen. No edema was present. A blood count on the female infant, obtained about one hour after birth, revealed a red blood count of 1.35 million and a hemoglobin of 4.5 gm. A smear showed a tremendous number of immature nucleated cells of the erythrocytic series. The liver and spleen continued to enlarge and icterus appeared shortly. With the infant in critical condition, she was given 105 cc. of compatible group O, Rh positive blood and showed prompt improvement clinically. After an additional 65 cc. of O, Rh positive blood the next morning (all available group O, Rh negative blood having been given to the mother at operation), the following count was reported: red blood count, 3.50 million; hemoglobin, 12.4 gm.; white blood count, 15,750, with 6 per cent normoblasts.

On the fourth, twentieth and thirty-fifth days of life transfusions of approximately 50 cc. were given. The normoblast count was within normal limits by the sixth day, and the red blood count ranged between 4.5 to 5 million with a hemoglobin of 16.5 to 18.5 gm. during the hospital stay. The liver and spleen slowly returned to normal size and the jaundice gradually subsided. (A mild upper respiratory infection appeared at about two weeks but yielded to treatment.)

It was never thought necessary to transfuse the male infant who did not have clinically or by laboratory examination any evidence of hemolytic disease of the newborn. Daily blood counts revealed an adequate red count and hemoglobin with a normal normoblast count. Both of the babies and the mother were eventually discharged from the hospital in good condition.

Blood studies on the infants revealed: male, group O, Rh negative (Rh⁰); female, group O, Rh positive (Rh₁ heterozygous).

The mother's serum immediately post-partum was reported to contain blocking antibodies, the titre of which was at least 1:1,000.

Grossly, the placentas appeared normal, but microscopically, sections of the one from the female infant showed changes suggestive of erythroblastosis.

Following discharge from the hospital both infants made good progress with regard to growth

and development. When last seen at the age of 7½ months, both appeared normal physically and mentally. The male weighed 7,980 gm. and the female weighed 7,830 gm. The female twin had no residual findings of her disease. Her red blood count was 3.75 million and the hemoglobin was 13 gm. The male twin had a red blood count of 4.22 million and an hemoglobin of 12 gm.

An antibody titre of the mother's serum seven months post-delivery revealed blocking antibodies of a 1:33 titre.

An additional case is reported of erythroblastosis fetalis affecting one member of a double ovum twin pregnancy. The diseased infant was treated by repeated small transfusions of compatible Rh positive, group O blood and survived. The father was Rh positive heterozygous and the mother was Rh negative with serologic evidence of immunization, probably resulting from a previous transfusion.

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MERCY HOSPITAL CLINICOPATHOLOGIC CONFERENCE

March 7, 1950

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Summary of Clinical Record

In June 1928 the patient, a 48 year old white female, began to have severe headaches which came on at irregular intervals and lasted from two to four days. The headaches were associated with blurred vision and occasionally nausea and vomiting. At times they would occur once a week and at other times as infrequently as once a month. The family physician made the diagnosis of migraine. Within six months, however, the visual disturbances became so severe that she was unable to drive an automobile. In March 1929 the patient became pregnant. Her pregnancy was uneventful and during this time she had no headaches. A week after delivery, how-

ever, her symptoms returned and her vision began to fail considerably.

In May 1931 ventriculograms were done, and the diagnosis of a possible brain tumor was made. She had a cerebellar exploration on May 26, 1931, at which time no evidence of tumor was found. After the operation her headaches continued but her vision improved. At this time she began to have hallucinations and periods of disorientation during the headaches. It was recommended that the patient be placed in a mental institution. In August 1931 she was taken to the Mayo Clinic. The diagnosis of a possible supratentorial tumor was made, and for this reason ventriculography was attempted. Although the ventricles were entered, they were collapsed. X-Ray therapy was given and the patient was allowed to return home. She remained bedridden, and the same periodic cycle of headaches continued. After five years her vision failed again, and she became totally blind. Her sense of smell also disappeared. Her hearing was acute, however, and she showed no paralysis. For the last five years she had no nausea or vomiting associated with the headaches, but she developed recurrent episodes during which her temperature ranged from 102 to 104 F. and which became progressively longer and more frequent. She expired on Dec. 16, 1948, during one of these febrile episodes. An autopsy was performed on the day of death.

Clinical Diagnosis

Meningioma

Dr. J. T. Bakody: I would like to begin by chronologically relating some of the facts that are given in the clinical abstract. The patient is a 48 year old white female with a disease of approximately 20 years' duration. In June of 1928 there was an onset of severe headaches, blurred vision, and occasional nausea and vomiting. We are not told whether she had a hemicephalgia at that time. Approximately six months later the visual disturbances had become so severe she was unable to drive the car. In March of 1929 she began what proved to be an uneventful pregnancy during which there were no headaches. In December of 1929, one week after delivery, the headaches returned and the vision began to fail considerably.

In May of 1931 a brain tumor was suspected and ventriculograms were done. We are not told whether this patient had papilledema at that time, but we will suppose that she did. A diagnosis of cerebellar tumor apparently was made, but at cerebellar exploration no tumor was found. She must have had an obstructive hydrocephalus at this time to lead to a diagnosis of cerebellar

tumor. Postoperatively the vision improved, but the headaches remained the same. The patient then began to have hallucinations and disorientation during the headaches, and mental hospitalization was advised. In August of 1931, three to four months after the ventriculogram and cerebellar operation, she was taken to another place where a supratentorial tumor was suspected. This is certainly a shift of neurosurgical opinion, and we are not told why. Ventriculograms were either made or attempted at this time, and we have the information that the ventricles were collapsed. This is an unusual finding as one would suspect an enlargement of the ventricles if a cerebellar exploration had been carried out. No localization was apparently possible and the x-ray therapy was given as a palliative measure.

From 1931 to 1936 the patient was bedridden, and her periodic headaches continued. We are not old why she was bedridden, but in 1936 she had no paralysis. If neurologic disability was the cause, perhaps a major cerebellar dyssynergia was present in spite of negative cerebellar exploration. In 1936 she became totally blind. We do not know whether she had choked discs or optic atrophy. She lost her sense of smell, and we do not know whether this loss was unilateral or bilateral. If it were unilateral, it would certainly be of some neurologic significance. Her hearing was apparently normal. From 1943 to 1948 her periodic headaches were associated with febrile episodes. In December 1948, approximately 20 years after the onset of her illness, she died during a febrile episode.

I am impressed, first of all, by the longevity of the disease. I am also impressed by the periodicity of the headaches and by the visual changes. Some information can be gained by analysis of the headaches. They began in June 1928 and were described as severe, but we do not know the exact location or type of pain. The frequency varies intermittently from once a week to once a month. Associated phenomena were blurred vision at the time of onset in 1928 with nausea and vomiting; in 1931 hallucinations and periods of disorientation; and, finally, during the last years of the patient's life, recurrent febrile episodes with the temperature ranging from 102 to 104 F. We do see elevation of temperature in cerebral lesions: as you know, the center for temperature control is thought to be located in the hypothalamic region. Lesions in or about the hypothalamic region ordinarily produce febrile episodes. This patient may have had a localized lesion in the hypothalamus, or the secondary effect of obstructive hydrocephalus with dilatation of the third ventricle may have been respon-

sible for the symptoms. An unusual feature is the absence of headaches during the pregnancy in 1929. Brain tumors have been studied in pregnancy. Usually brain tumor growth is accelerated during pregnancy. The fact that the headaches were absent during pregnancy tends to rule out the presence of a tumor.

Visual disturbances were certainly prominent, and something may be gained by an analysis of them. The disease was associated with blurred vision from its onset. Six months later the patient could not drive a car because her vision was so poor. Her vision returned during pregnancy, but it is stated that one week after delivery her vision began to fail considerably. In May of 1931 after the cerebellar decompression her vision improved but the headaches continued. In 1936 the vision failed again, and the patient became totally blind. It would be helpful, of course, to know whether this patient at any time had papilledema, optic neuritis, hemianopsia, diplopia or disturbed pupillary responses. What are some of the other anatomic possibilities in this history of failing vision?

Macular abiotrophy is usually a familial disease and occurs at an earlier age. Macular chorioretinitis, bilaterally, will, of course, produce a bilateral loss of central vision. This condition is found, for example, in toxoplasmic encephalitis. At one time or another, however, this patient must have had an ophthalmoscopic examination, and these findings would have been noted.

Toxic agents such as nicotine, methyl alcohol and arsenic will affect the optic nerve and produce atrophy, but these conditions do not usually produce a fluctuating visual disturbance.

Syphilis, especially *tabes dorsalis*, presents failing vision and optic atrophy, but if this patient had syphilis, I am sure that information would have been given us.

Direct pressure on the optic nerve or optic chiasm may cause blindness. A spongioblastoma polare, which is a slow growing tumor, may produce blindness, but there are usually signs and symptoms associated with involvement of the hypothalamus. As you recall, the only symptoms of hypothalamic involvement were during the latter years of her life when she began to have fever with her headaches. Meningioma may occur in the suprasellar region as a suprasellar tumor, or it may arise from the sheath of the optic nerve, bilaterally producing constriction of the optic nerves and thus causing blindness. If the tumor is in the optic sheath, there is enlargement of the optic foramina as the tumor grows. X-Rays of the skull were taken, and there is no evidence that these changes were noted. Su-

pracellar meningioma does occasionally produce changes in the sella turcica. Pituitary tumor will produce changes in the sella turcica. Eighty-five per cent of craniopharyngiomas are calcified and may be seen on a flat plate x-ray of the head. Bilateral carotid aneurisms may encroach upon the optic nerves, causing headaches and blindness. These lesions often are calcified, and they frequently produce secondary changes in the sella, such as erosion of the posterior clinoid processes. So-called central blindness from bilateral homonymous hemianopsia is produced by bilateral lesions involving the geniculo-calcarine tracts. If this patient had such lesions, there would be localizing signs which never appeared.

Could the blindness be due to unrelieved papilledema? I suspect it might well have been, although we do not know she had papilledema. Very commonly we see optic atrophy with blindness following papilledema. Certainly in brain tumors this is probably the most common cause of blindness. Most optic diseases such as glaucoma would, I think, have associated findings which are not recorded in the history. Malignant hypertension and chronic glomerulonephritis, which might cause papillitis or optic atrophy, would certainly be noted. Multiple sclerosis, as you know, may cause optic neuritis with blurred or failing vision, but we have no evidence that this patient had multiple sclerosis. There is no evidence that this patient had congenital abnormalities. Although symptoms began at the age of 28, we do see congenital disturbances making their first appearance in adult life. Inflammatory lesions, such as encephalitis, meningitis, brain abscess or syphilis, would probably have been recognized. This patient had ventriculographic studies, and undoubtedly the ventricular fluid, if not the spinal fluid, was examined. Furthermore, inflammatory lesions are self limited and are not likely to produce symptoms for 20 years.

Parasitic infestation also must be considered. Two that occurred to me were cysticercosis and Echinococcus infestation. These parasites may invade the intracranial cavity. In one case of cysticercosis which I observed there was papilledema and obstructive hydrocephalus. At the time of cerebellar exploration the parasites were floating free in the ventricle and the subarachnoid space, producing obstructive hydrocephalus and papilledema. These patients usually have lived outside the United States or are of foreign extraction, and they usually eat pork in large quantities.

There is no history of trauma, so I believe we can eliminate traumatic lesions. Toxic and degenerative lesions, such as Pick's disease or Alz-

heimer's disease, present mental disturbances, and you will note that hospitalization for mental study was advised at the time of the second neurologic investigation, but the mental changes were not the primary problem.

Vascular conditions such as arteriovenous malformations or angiomas are frequently calcified and may be seen in the x-ray film; if they occur supratentorially, localizing signs and symptoms would be present. Just recently I read a report of a patient who had migraine headaches for at least 50 years. At autopsy aneurisms were found which had never ruptured, and it was thought that the aneurisms had been the cause of the migraine. An aneurism, however, would have to be bilateral to produce failing vision. Either calcific shadows in one or the other aneurisms or pressure changes on the sella turcica should have been evident by x-ray. Vascular malformations usually have two prominent symptoms, subarachnoid hemorrhage and convulsions. Neither were recorded in this history.

In brain tumors the benignity depends upon the histology and location of the growth. Histologically, what are some of the benign lesions which might be present? Astroblastoma is usually located supratentorially. Cystic astrocytoma of the cerebellum is usually unilateral and produces localizing cerebellar symptoms. An oligodendroglioma is usually supratentorial and calcified and may be seen in x-rays. Ependymomas may have some ventricular and intracerebral extension. If these tumors are supratentorial, they show localizing symptoms; if they are in the fourth ventricle, they usually produce an obstructive hydrocephalus, which is not compatible with life for 20 years. Spongioblastoma polare is a slow growing tumor which occurs along the basal structures of the brain and involves the optic nerves or optic chiasm. An acoustic neuroma is usually localized to the cerebellopontine angle, and there are discrete localizing signs and symptoms. Papilloma of the choroid plexus may occur in any of the ventricles; in the lateral ventricles there would be localizing symptoms; in the fourth ventricle there would be an obstruction, which would not be compatible with a history of 20 years' duration.

Colloid cysts of the third ventricle must be mentioned. These are benign tumors arising from the paraphysis of the rostral portion of the third ventricle. They may produce periodic headaches and are sometimes found accidentally at autopsy. These tumors, when large, obstruct the foramen of Monro and result in dilatation of the lateral ventricles. The floor of the third ventricle is often thin and thalamic, and hypothalamic nuclei

are compressed by the cyst. These tumors are not likely to produce failing vision until the ventricular obstruction becomes sustained; the third ventricle would then be pushed down on the optic chiasm and cause blindness.

Vascular tumors and angioblastomas are probably the most common in the cerebellum of adults. They are usually found in one or the other of the cerebellar hemispheres but occasionally are found in the vermis. As these tumors grow, they usually develop obstructive signs and symptoms with localizing cerebellar symptomatology.

Meningioma is probably one of the best known of the benign neoplasms of the brain. There are varied syndromes described along with meningiomas, depending upon its location. Two locations that probably should be mentioned are: first, the meningioma which arises bilaterally in the optic sheath, expands and presses on the optic nerve leading to blindness; and, second, a meningioma in the posterior fossa in the midline, especially one not actually lying within the ventricle. To speak of a subtentorial tumor in this case is perhaps unreasonable since we were told that in 1931 cerebellar exploration was negative. There is a discrepancy in the interpretation of the ventricular studies, however, for in one the tumor was thought to be subtentorial in location and in the other, supratentorial in location. Therefore, I do not feel that a negative cerebellar exploration necessarily rules out a lesion in the posterior fossa. A meningioma in the posterior fossa will usually show localizing symptoms in less than 20 years.

In conclusion, I think this patient probably had a slow growing brain tumor which was most likely a meningioma. I do not think it is possible to localize it, but I would suggest two possibilities: one, a meningioma arising from each optic sheath; or, two, a meningioma in the midline of the posterior fossa which was high enough to avoid an obstruction.

Dr. F. C. Coleman: Thank you, Dr. Bakody. What other diagnoses are suggested?

Dr. H. A. Collins: Dr. Bakody suggested every possible diagnosis in his fine differential diagnoses.

Dr. Coleman: Does everyone agree with Dr. Collins or would someone like to suggest other diagnoses?

Necropsy Diagnoses

Dr. Coleman: This patient had been a great problem to her family, her family physician and the hospital. She was given x-ray therapy in 1931 and sent home with a prognosis of six months of life. She lived for 17 years, as you note in the history, and died in a nursing home.

The family physician who had looked after her all these years obtained permission for an autopsy that was restricted to the head.

At autopsy the body was emaciated, measuring 5 feet 3 inches in length and weighing 60 pounds. The cheeks were sunken. No subcutaneous fat was present. Multiple abrasions were noted over

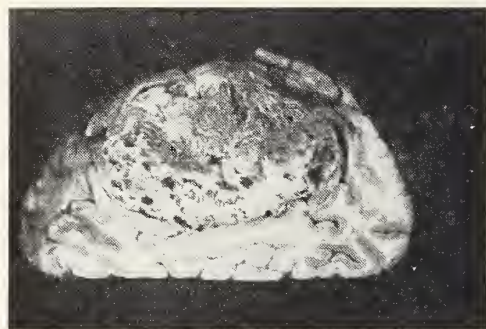


Fig. 1. Vertical section showing angioblastic meningioma in right cerebral hemisphere.

the hands, forearms, feet and legs. She had become slightly maniacal at times and would scratch herself. Multiple bruises were present over the trunk and extremities. There was a 2 cm. decubitus ulcer over the sacrum. The skull was of increased thickness, the frontal and occipital bones measuring 1.2 cm. in thickness. The occipital bone showed two circular defects, each measuring approximately 1 cm. in diameter. Each was located 2 cm. above and 3 cm. lateral to the external occipital protuberance.

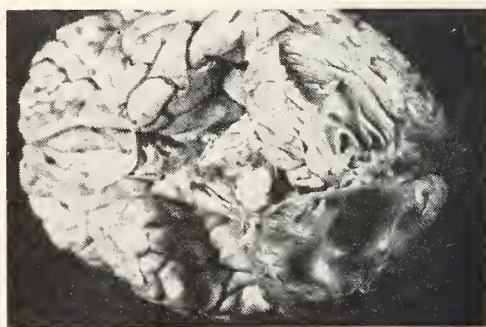


Fig. 2. Unroofed cystlike structures in cerebellar hemispheres communicating with fourth ventricle, probably the result of surgical trauma in 1931.

Just below the external occipital protuberance there was a roughly heart-shaped defect measuring 8 by 7 by 6 cm. in the occipital bone. The dura mater was adherent to the soft tissues covering this defect, and there was herniation of the dura mater through the circular opening in the occipital bone on the left side. The dura was adherent to the right occipital lobe laterally over an area 6.5 cm. in diameter. When stripped away, a circumscribed yellowish orange tumor was demonstrated which extended down into the right

occipital lobe to enter the occipital horn of the right lateral ventricle. The intraventricular portion of the tumor measured 4.5 by 4 by 4 cm. and was attached both to the main portion of the tumor and to the floor of the ventricle. The tumor contained multiple cysts averaging 4 mm. in diameter as well as multiple areas of calcification. The ventricular system was dilated, the

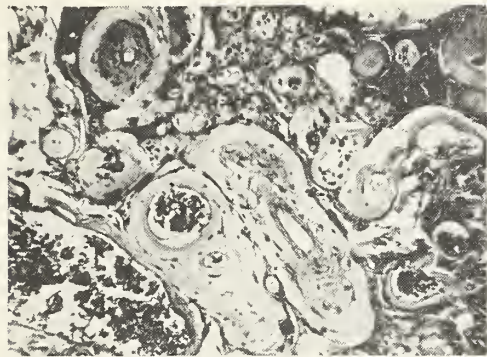


Fig. 3. Microphotograph of angioblastic meningioma. Note thick-walled vascular channels.

dilatation being most marked in the occipital horn of each lateral ventricle and the fourth ventricle. The fourth ventricle was so dilated that cystlike structures were noted in each cerebellar hemisphere, which were actually portions of the ventricle.

Histologically, the tumor was an angioblastic meningioma which, according to Cushing and Eisenhardt's classification, was a type 4 meningioma. Most of the tumor was composed of obliterated vascular spaces, but some spaces were pat-



Fig. 4. Microphotograph of angioblastic meningioma. Areas of calcification are present. Obliterated vascular spaces are noted below the calcified areas.

ent and many had hyalinized walls. In some areas, however, were collections of meningo-epithelial cells that were suggestive of the true nature of the tumor. Areas of necrosis were present as well as areas of calcification.

The long duration of this lesion may be explained on the basis of the decompression in 1931 and on the intraventricular location of a portion

of the tumor. In reviewing the 313 cases reported by Cushing and Eisenhardt,¹ we were surprised to find that there were 3 cases with symptoms for longer than 25 years, 2 cases with symptoms of from 20 to 25 years, 5 cases with symptoms of from 15 to 20 years, and 20 cases with symptoms of from 10 to 15 years. There is no specific location for the tumor in these 30 cases with symptoms for 10 years or longer.

A parasagittal location was most commonly observed. In this location the tumor lies in the superior portion of the cerebral hemisphere adjacent to the superior sagittal sinus. The next most common location was the pterion, where the tumor was situated just lateral to the greater wing of the sphenoid bone and posterior to the optic plate. Other tumors were located on the convexity of the cerebral hemispheres or beneath the tentorium.

Because of the unusual nature of this tumor, slides were submitted to Dr. Cyril B. Courville and to Dr. Percival Bailey. Dr. Courville² stated: "I found it to be a meningioma of the mixed type, both syncytial and angiomatous and showing hyalinization with calcium deposits." Dr. Bailey³ stated: "The appearance is compatible with a diagnosis of psammomatous meningioma. The structure is obscured by widespread myelin degeneration."

This tumor was of particular interest to me because last fall I performed an autopsy on another patient, a physician, who had a cerebral meningioma with symptoms for 15 years. No diagnosis had been made, even though repeated studies had been performed.

Dr. J. W. Chambers: In reviewing the history and physical examination findings, is there anything excluded that might have helped Dr. Bakody in establishing the diagnosis?

Dr. Coleman: All the information available was included. It is rather difficult to obtain adequate information on illnesses that extend so far in the past.

Dr. Collins: Did you have a report of the surgical findings from Mayo Clinic?

Dr. Coleman: Yes, I wrote for a report. Dr. W. M. Craig⁴ stated: "Your letter has been referred to me and I am glad to submit a report. This patient was seen in August of 1931 at which time she was 31 years of age. She gave a history of having had three years of intermittent headaches associated with nausea and vomiting. Upon examination she had incoordination of the left hand, dizziness and slowing of speech. On May 26, 1931, she had a cerebellar exploration elsewhere at which time no tumor was found. Be-

(Continued on page 310)

STATE DEPARTMENT OF HEALTH



POLIOMYELITIS PRECAUTIONS

Since we have no one specific preventive procedure for poliomyelitis as we have for diphtheria, whooping cough and smallpox, we must resort to more indirect methods of attack. The virus of poliomyelitis leaves the body of the known or unknown case or the well carrier through the discharges of the upper respiratory and intestinal tracts. We materially reduce the infection from the intestinal tract by sanitary control but do little to control infections spread by discharges from the upper respiratory tract. For example, typhoid fever, spread by intestinal tract transmission, is seldom seen nowadays in Iowa. However, measles, mumps, common colds, chickenpox and influenza, all virus diseases spread by infection from the nose and throat, are as common as ever. In other words, our community attempts to control disease by sanitation are better than our individual attempts based upon personal hygiene.

The following precautions, if followed, will materially reduce one's chances of acquiring poliomyelitis:

1. Remember that any one of us may carry the infection or develop the disease. For every known case there are dozens of mild undiagnosed cases and still more healthy carriers. The term *infantile paralysis* is misleading. Last year the age range of our Iowa cases was from one month to 73 years, with one-half of the cases in persons over 10 years of age. We previously thought only in terms of whether we can contract poliomyelitis. This year let us also consider our own chances of spreading the infection.

2. Reduce the number of contacts you make daily. Confine these as nearly as possible to your regular daily contacts with persons in your own neighborhood. Keep away from crowds. Avoid unnecessary trips to areas where poliomyelitis is known to be present. If such trips must be made, make them short and leave those at home who do not absolutely have to go.

3. Wash the hands before preparing or serving food. Wash the hands and face before eating. Teach children to keep their hands away from

their mouths. (Imagine the amount of infection transmitted to the mouth by a group of youngsters blowing bubble-gum and playing marbles.)

4. Use only clean food and drink. (A dirty restaurant or a sidewalk lemonade stand with one pitcher and two glasses has frequently helped poliomyelitis flourish.)

5. Avoid overfatigue and chilling. These often predispose to poliomyelitis attacks. See that children get rest periods. An hour at a swimming pool is better than a whole afternoon.

6. Keep away from persons with upper respiratory infections. Poliomyelitis often starts as a cold or a sore throat.

7. Call your physician early if your child develops any unexplained sore throat, stiffness of the neck, intestinal tract disturbance or fever.

8. Physicians and dentists in your area will know when poliomyelitis is present and whether they should do tonsillectomies or extract teeth.

9. Cancel family reunions, church picnics, carnivals, county fairs, etc., in areas where there is poliomyelitis.

10. Keep away from possibly polluted surface water whether it be swimming holes in a river, water in small streams or in puddles along the city streets. Any person who goes swimming gets water into his mouth and any child who goes wading gets his hands wet and most likely will get his fingers in his mouth before they can be washed. Remember that in a crowded swimming pool infection may be passed on to another swimmer before the chlorine in the water has had time to destroy the infectious agents.

11. Closing of theaters, swimming pools and churches will reduce the spread of poliomyelitis in an area where it has appeared but will be of little value if people are permitted to roam elsewhere at will.

12. Do not consider DDT as a poliomyelitis preventive measure. It is a good adjunct to fly and mosquito control when other control measures are used along with it, but DDT has never stopped a poliomyelitis epidemic. Similarly, we have no knowledge that it has ever prevented one.

The following is a copy of the Personal Regulations distributed to all public swimming pools in Iowa. The two copies for each pool are to be signed by the local health officer and chairman of the Swimming Pool Board and posted at the entrances of the bath house.

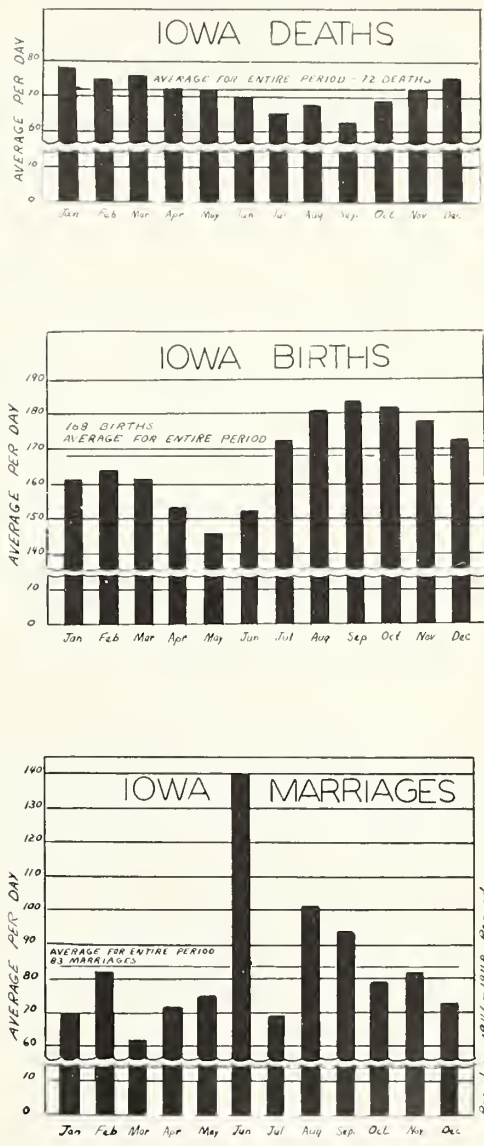
PERSONAL REGULATIONS

1. All persons using this swimming pool are required to take a cleansing shower both in the nude, using warm water and soap, and thoroughly rinsing off all soapsuds before entering the pool room or inclosure. A bath taken after donning a bathing suit will not be permitted.
2. A bather leaving the pool room or inclosure for any reason must take a foot bath before returning. A bather leaving pool to use toilet shall take a second cleansing bath before returning.
3. All bathers should use the toilet and particularly empty the bladder before taking cleansing bath and entering pool.
4. Persons having any skin disease, sore or inflamed eyes, cold, nasal or ear discharges, or any communicable disease will be excluded from this swimming pool.
5. Persons having any considerable area of exposed subepidermal tissue, open blisters, cuts, etc., are warned that these are likely to become infected and are advised not to use the pool.
6. Spitting, spouting of water, blowing the nose, etc., in the pool is strictly prohibited. The gutter is provided for expectoration.
7. Blowing the nose to remove water is likely to force infectious matter into sinus and inner ear cavities and possibly cause serious consequences.
8. Divers should wear rubber caps over the ears or ear plugs to prevent infection of the ear drum and passages by water forced in by concussion. Also nose plugs or clamps are recommended.
9. No boisterous or rough play, except supervised water sports, will be permitted in this pool, on the runways, or diving boards, floats or platforms, or in dressing rooms, shower rooms, etc.
10. Privately owned swimming suits must be cleaned, sterilized and dried after each swim.

.....
Local Health Officer

.....
Chairman, Swimming Pool Board

The above swimming pool regulations are approved by the State Department of Health.



MORBIDITY REPORT

Disease	May '50 Apr. '50 May '49			Most Cases Reported from:
	May '50	Apr. '50	May '49	
Diphtheria	2	1	3	Black Hawk, Davis
Scarlet Fever	30	22	49	Des Moines, Linn, Polk
Typhoid Fever	0	0	0	
Smallpox	0	2	0	
Measles	1094	2945	386	Black Hawk, Linn, Scott, Story
Whooping Cough	97	69	10	Black Hawk, Des Moines, Polk, Scott
Brucellosis	4	15	29	Clay, Des Moines, Franklin, Mahaska
Chickenpox	318	626	279	Des Moines, Dubuque, Johnson, Story
Influenza	0	4267	0	
Meningitis meng.	3	3	2	O'Brien, Polk, Scott
Mumps	202	907	329	Black Hawk, Des Moines, Montgomery
Pneumonia	6	16	9	Polk, others scattered
Poliomyelitis	11	8	2	Wayne (3), Page (2), others one to a county
Rabies in Animals	53	52	37	Johnson, Polk, Warren
Tuberculosis	86	81	79	For the state
Gonorrhea	40	49	65	For the state
Syphilis	137	223	186	For the state

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JULY, 1950

No. 7

The Official Issue

This volume of the JOURNAL marks the annual official issue. Not only will you find the transactions of the House of Delegates in their meeting at the Centennial Session in Burlington but a roster of members of the State Society. It is recommended that each reader set aside this issue so that he may have it handy for reference for names of physicians in various communities in the state. For your convenience this month's cover carries the notation *desk copy*.

All too frequently there is criticism on the part of some members of the Society regarding the manner in which the business is handled. By referring to the minutes of the House of Delegates it is possible for any reader to become acquainted with what transpired at Burlington whether the member was actually present or not. If anyone will take the time to go over these transactions, it will be immediately apparent that considerable time, effort and thought was expended.

The complete details of the revision of the Constitution and Bylaws including the establishment of a Grievance Committee are presented. In addition, there is considerable information in the reports of committees with which each member of the Society should be familiar. These problems, as faced by the various committees, are vital to each member, and any suggestions from the membership not only would be gratefully received, but would be given full consideration. It therefore behooves each physician to spend the few minutes necessary to review the official record.

Reorganization Plan No. 27

The Reorganization Plan No. 27, submitted on May 31, 1950, to Congress by President Truman, provides for the creation of a Department of Health, Education and Security. This Plan establishes a triple instead of a single department. If the federal government is to afford a healthful country in which its citizens may live, certainly health problems deserve the attention of a full time agency devoted entirely to health matters. This has long been urged by the AMA and recently was recommended by the Hoover Commission. The President would have us accept his suggestion that the nation's health problems be grouped in one department with educational and security activities of the government because he feels they are related.

Last year a similar plan was presented, and it was defeated by Congress. It was defeated because it did not conform to the Hoover Plan. Hoover recommends setting up a Department of Education and Security. But he wants to put the health division in an entirely separate medical administration. That has been the great issue. The welfare people, like Oscar Ewing, want to run health as a kind of welfare service. The doctors and others feel that medical care and health is a special subject, which ought to be dealt with by people who are expert in the health field and not subject to welfare direction.

Now, the difficulty with this plan is the same as the difficulty with the plan last year. It is true that it separates these three functions into separate departments under the secretary, but the secretary has an assistant secretary, and an under secretary, all of whom are likely to be welfare people, as none is required to be a physician, and then it is not perfectly clear that all the health functions have to be assigned to the surgeon general of the public health service.

This reorganization plan won't die on adjournment: It becomes law if not vetoed down. There is one exception, the possibility of Congress adjourning before July 31. If this should happen, the plan would automatically die. If Congress takes no action on this plan, yet stays in session through July 31, Mr. Truman automatically will be authorized to set up the new department. Ignoring this proposal will not defeat it—the only way to stop it is for either the Senate or the House to disapprove it by a majority vote of all members, not just all members present on the day of the vote.

It is a certainty, regardless of the action which might be taken by the Committees on Expendi-

tures in the executive departments, that this plan will reach the floor of either the Senate or the House for debate and vote. Therefore, in voicing opposition to the plan it is important that you communicate with all of your Senators and Congressmen and not just members of the committees.

Grievance Committee Starts Functioning

The House of Delegates authorized the appointment of a Grievance Committee at the annual meeting and the president appointed the eleven members from names suggested by the eleven districts. The first meeting of the Committee was held May 21, at which time Dr. E. M. Kersten of Fort Dodge was named chairman, H. B. Weinberg of Davenport, vice-chairman, and Dr. M. G. Beddoes of Oelwein, secretary. A second meeting of the Committee is scheduled for June 25, 1950.

Even before the first meeting of the Committee, the central office had received a dozen or more referred matters. It is most commendable that the Committee lost no time in getting to work. Prompt attention to letters from persons feeling they have a grievance will do much to alleviate the difficulties and misunderstandings which have prompted the complaints.

The Committee has set up a definite procedure for handling all communications, so that there should be no delay in replying to the complainants. Meetings are scheduled monthly at which time the Committee can review all of the material which has been collected and come to some decision on each case.

We have been told by states having similar committees that they are the best single factor toward building up better public relations. We feel confident the same will be true in Iowa, and we know that the Committee will be zealous in the performance of its duties and that it will receive the cooperation and support of the medical profession.

New Assistant Editor

With this issue the JOURNAL announces the appointment of Marilyn Clementsen as assistant editor. Janet Neal Fowler has found it necessary to resign in order to accept another position in New York City. We would like at this time to extend our appreciation to Mrs. Fowler for her excellent work for the past two years and to welcome Miss Clementsen in her new position.

Poliomyelitis Outbreaks

Frequently the physician is asked several questions when a case of poliomyelitis occurs in a camp or a school. These questions include the likelihood that additional cases will occur, and if so, how many and when; the question as to the advisability of continuing operation of the school or camp; and if the school or camp is closed, will the dispersed group constitute a significant health hazard to other communities.

A study was made of the actual behavior of poliomyelitis as it occurs during the summer in camps and during the rest of the year in boarding schools to determine whether the epidemiologic data may point the way to logical administrative control.*

Certain epidemiologic features, which are not evident in the pattern of any one outbreak, emerge from the collective experience of all the camps and schools. Eighteen multiple-case outbreaks of poliomyelitis involving 80 children were noted. When the 80 recognized cases were aggregated by day of outbreak, clustering was observed at two points, one in the first three days of outbreak, and the other distributed along a curve, with the peak a week after the development of symptoms in the first patient. Apparently patients developing poliomyelitis on the first day of an outbreak in one of these closed communities ordinarily contracted the disease from common exposure. Development of the disease in children within a day or two of the initial case may be reasonably considered instances of simultaneously developing infection. It may be inferred that patients who develop poliomyelitis within the first five days of an outbreak have contracted it from a common source, whereas those who develop the disease later represent secondary attacks among contacts of the initial group of patients. Infection in these secondary cases presumably takes place one or more days before primary or other common source cases are recognized and the patients isolated.

Three patterns of infection were recognized: single-case outbreaks which did not progress, single-case outbreaks which were followed by from 1 to 3 additional clinical cases after an interval of five days, and outbreaks of multiple initial cases in the first five days followed by as many as 16 cases during the subsequent period of from two to three weeks. The distinctive fact emerging from the data as a whole is the failure of poliomyelitis to propagate in a clinically manifest form in the large majority of instances in which a single recognized patient presumably exposed the

*Ingalls, T. H.; and Rubenstein, A. D.: *Am. J. Public Health* (May) 1950.

group. In the seven single-case outbreaks which were followed by cases of recognizable infection after an interval of five days, the incidence of secondary attacks did not exceed more than 1 per cent of the group exposed. On the other hand, almost half of the outbreaks initiated by multiple cases occurring within five days of each other resulted in secondary cases constituting from 2 to 8 per cent of the exposed group.

The data permit a provisional estimate of the likelihood of spread when poliomyelitis is introduced into closed community groups. If but one case develops during the first five days of an outbreak, the likelihood of significant spread is small; in over 80 per cent of such outbreaks no further cases may be anticipated. One or 2 more additional clinical cases may be expected in perhaps 20 per cent of such outbreaks, but epidemic spread is unusual. The expectation is different when the outbreak of poliomyelitis is initiated by multiple cases, which indicate that common source infection of several members of the group has occurred. Thus, in this study, when three of the five outbreaks were ushered in by two common source cases, at least one other individual developed infection; in five of the six outbreaks which began with 3 or more cases, spread of the infection occurred and reached epidemic proportions on two occasions. The extent of such spread was generally related to community dosage of the virus as measured by the number of common source cases developing in the first three or four days of the outbreak. It may be concluded that the prevalence of poliomyelitis in camps and boarding schools corresponds in general to that of boys and girls of the general population. Under existing circumstances a multiple case outbreak is to be expected in the ordinary camp or school about once every century.

AMA Directory

The eighteenth edition of the AMA directory, the first since 1942, has been completed and is now available.

The new directory contains 2,913 pages and lists information on 219,677 physicians in the United States, its dependencies and Canada. It also lists American graduates and licentiates located temporarily abroad. Since the 1942 directory, thousands of changes of address have been made; 51,984 names have been added, and 28,242 names dropped from the book on account of death or for other reasons.

In the 1942 directory the total number of physicians listed in the United States was 180,496; in the 1950 edition, the number is 201,277

or a gain of 20,781, an average yearly gain of 2,598 during the last eight years.

The Pacific States show the largest increase in physicians, the Atlantic and Great Lakes States a moderate increase, and the West Central States the greatest losses. California leads in the number gained, with 16,668 physicians in 1950 as compared with 12,365 in 1942, a gain of 4,303. New York state shows a gain of 2,284, Texas a gain of 772, Pennsylvania 704, Florida 634 and Massachusetts 603.

The directory costs \$25. Orders can be placed by writing to Frank V. Cargill, Directory Department, American Medical Association, 525 North Dearborn St., Chicago 10.

CLINICOPATHOLOGIC CONFERENCE

(Continued from page 305)

cause she continued to have symptoms and also had become confused and disoriented at times the previous two weeks, we thought she might have a supratentorial tumor. For that reason, an attempt was made to make ventriculograms, but although we entered the ventricles, the ventricles seemed collapsed, indicative of a deep-seated tumor. X-Ray therapy was then given, and the patient was allowed to return home."

Dr. H. G. Decker: In this instance, as there was no actual evidence of obstruction in the posterior fossa, it would seem to me that encephalography together with ventriculography would be of more value than ventriculography alone. To remove the tumor would not have required any unusual surgical ability if it could have been fairly well localized. The primary difficulty in this instance was that the presence of a tumor was not confirmed nor was it localized by other methods than air. I am quite confident that Dr. Bakody is correct in assuming this patient had papilledema, especially as this was quite a large space-occupying lesion. I also feel that the blindness was the result of atrophy secondary to papilledema.

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LICENSURE EXAMINATIONS

Eighty applicants, the largest number in recent years, took their Iowa State licensure examinations at the State University of Iowa medical laboratories June 12 to 14. June graduates from the College of Medicine, interns, and persons from outside the state took the test given in 10 areas of medicine, according to Dr. Malcolm A. Royal of Des Moines, a member of the Iowa Board of Medical Examiners.

NEWS NOTES

from the

Committee on Medical Service and Public Relations

Doctor-Pharmacist Meeting in Dubuque



Pictured, left to right, are: Mr. Dallas Bruner, executive secretary, Iowa Pharmaceutical Association; Dr. Fred Sternagel, chairman, Committee for Medical Service and Public Relations, Iowa State Medical Society; Mr. Donald L. Taylor, field secretary for the Iowa State Medical Society; Dr. Clarence A. Darrow, secretary, Dubuque County Medical Society; Dr. Donovan F. Ward, president, Dubuque County Medical Society; Mr. Al Hartig, Hartig Drug Company; Mr. Barney Myers, legal counsel to the Iowa State Medical Society and the Iowa Pharmaceutical Association; and Dr. Donald C. Conzett, president-elect, Iowa State Medical Society.

Sponsored for the Dubuque County Medical Society and the Dubuque County Pharmaceutical Association by the Hartig Drug Company of Dubuque, a social and banquet was held Tuesday evening, June 13, in the Swiss Valley Chalet, Dubuque. This joint meeting of the doctors and pharmacists was the twenty-third of a series that has been held throughout the state during the past year.

The meeting was held for the purpose of discussing mutual problems of the two allied professions, laws that pertain to drug dispensing, and state medical projects. Dr. Fred Sternagel of West Des Moines, chairman of the Committee on Medical Service and Public Relations of the Iowa State Medical Society, was the main speaker. He discussed interprofessional and public relations. Others who appeared on the program were Mr. Dallas Bruner, executive secretary of the Iowa Pharmaceutical Association, who explained the Federal Food and Drug Act as it applies to Iowa and also the state drug-dispensing law. Mr. I. W. Myers, legal counsel for both associations,

discussed general problems of the two associations. Mr. Donald Taylor, field secretary for the Iowa State Medical Society, explained future plans of the AMA Educational Campaign Committee, pending programs of the State Medical Society, and the advance of voluntary health insurance. Mr. David Hartig of the Hartig Drug Company served as moderator for this meeting.

The Committee on Medical Service and Public Relations of the Iowa State Medical Society urges the county medical societies that have not held these meetings to follow the precedent of the twenty-third and schedule such a program for the fall. The Iowa Pharmaceutical Association and Iowa State Medical Society will accept the responsibility of arranging and conducting the program. Each association will send the notice of such a meeting to the doctors and pharmacists in the county.

If your county medical society is interested in holding a doctor-pharmacist meeting, please write the office of the Iowa State Medical Society, 505 Bankers Trust Building, Des Moines, Iowa.

SPEAKERS BUREAU

HAROLD MARGULIES, M.D., *Chairman*

JOHN I. MARKER, M.D., Davenport

CHARLOTTE FISK, M.D., Des Moines

CAMPBELL F. WATTS, M.D., Cedar Rapids

ARTHUR D. WOODS, M.D., State Center

RUSSELL M. WOLFE, M.D., Marshalltown

GERALD F. KEOHEN, M.D., Dubuque

POSTGRADUATE COURSES

The Speakers Bureau is now in the process of setting up its educational activities for the coming year. The majority of our activities are planned for the months of September, October and November. For the most part they fall into two categories—those which are subsidized by federal and state agencies and those which are financed by the physicians participating in them or the individual county medical societies.

The postgraduate courses are the biggest contribution which the Bureau can make in its educational program. Each course offers lectures covering the recent development in medicine and surgery, and every attempt is made to have the programs of value to the physician in his everyday work. They provide the much needed opportunity for the men in smaller communities to keep abreast of medical progress without leaving their practices to go to an outside medical center for study.

This year an effort has been made to place the postgraduate courses in centers which are easily accessible to the doctors in the eleven districts in which the Society is divided. We have tried to arrange courses at points which are not more than 50 miles driving distance for the doctors in the area. This was done as a result of the questionnaires sent out this past winter.

Another result of the questionnaire response has been the actual programming of these courses. They are to offer what the individual physician feels he most needs in the way of further information, at a time most reasonable for him and at a place most convenient.

The expenses incurred are the responsibility of the physicians participating in the courses, but the registration fees received from them usually cover the amount. At the present time we are planning courses in Cherokee, Charles City, Mount Pleasant, Denison, Oelwein and Ames and are hoping to make them available in Pocahontas, Chariton, Eldora and Ottumwa.

The Speakers Bureau offers its services in arranging these postgraduate courses by suggesting possible subjects for discussion, obtaining outstanding speakers and announcing and publicizing the course to all doctors in the county and surrounding area. The programs for the courses and the specific dates and other information will appear later.

CANCER INSTITUTES

Dr. Edmund G. Zimmerer, director of the Division of Cancer Control of the State Department of Health, Des Moines, has announced that federal funds have again been made available to that Division for the purpose of presenting cancer institutes in nine centers throughout Iowa this fall. This is the fourth year for the institutes which have been so highly successful. During the previous three years of programs several communities expressed a wish to repeat the symposiums. Hence, they are to be given again in three centers this year.

The Speakers Bureau is planning the programs, obtaining the speakers and announcing the meetings. Each institute will be a one day meeting consisting of four lectures, two of which will be given before dinner and two after. The Iowa Division of the American Cancer Society is providing a complimentary dinner for the attending physicians. The expenses and honorarium of the speakers are paid by the Cancer Division of the State Department of Health. Therefore there is no charge to the doctors attending for either the dinner or the lectures.

The first institute will be held in Carroll on Thursday, September 7. Further information on the specific meetings and the programs for them will appear in a later issue of the JOURNAL.

County medical societies desiring either postgraduate courses or cancer institutes this fall are asked to contact the Speakers Bureau at the earliest possible time.

SPEAKERS BUREAU RADIO SCHEDULE

WSUI—Tuesdays at 11:45 a. m.

WOI—Thursdays at 11:15 a. m.

July 4-6	Treatment of Polio John L. Hoyt, M.D., Creston
July 11-13	Summer Rashes Otto C. Stegmaier, M.D., Davenport
July 18-20	Heat Exhaustion and Sunstroke R. E. Frech, M.D., Newton
July 25-27	Immunizations and Vaccinations John H. Ackerman, M.D., Nashua

TRANSACTIONS OF THE HOUSE OF DELEGATES

Iowa State Medical Society, Centennial Session

April 23-26, 1950

Sunday Afternoon, April 23, 1950

The opening session of the House of Delegates of the Iowa State Medical Society, held at the Hotel Burlington, Burlington, Iowa, convened at 3:10 p.m., Dr. Thomas F. Thornton, president-elect, presiding as Speaker of the House.

The Speaker: The House will please be in order. The first order of business is the roll call. While the cards are being counted we will ask for approval of the minutes of the Sunday session of Jan. 15, 1950, as published in the February JOURNAL.

Dr. R. F. Luse: I *so move*, Mr. Speaker.

Dr. C. A. Boice: I *second* the motion.

[The motion was put to a vote and carried unanimously.]

The Speaker: In order to expedite matters I will call for the address of President Alcock.

[President Nathaniel Alcock read his prepared address following which he assumed the chair while Speaker Thornton, president-elect of the Society, read his address, both of which were published in the June JOURNAL.]

The Speaker: The secretary is ready to report on the roll call.

The Secretary: Mr. Speaker and gentlemen, the roll call has been taken by registration card. We have more than a quorum; there are about 70 present.

Roll call showed the following persons present:

DELEGATES

Adams—A. W. Brunk
Allamakee—C. R. Rominger
Black Hawk—E. L. Rohlf
Black Hawk—T. L. Trunnell
Boone—W. H. Longworth
Bremer—P. J. Amlie
Buchanan—R. L. Knipfer
Buena Vista—H. E. Farnsworth
Butler—F. A. Rolfs
Carroll—J. M. Tierney
Cerro Gordo—C. O. Adams
Cherokee—J. H. Wise
Chickasaw—P. E. Gardner
Clarke—C. R. Harken
Clay—E. E. Munger, Jr.
Clayton—P. V. Hommel
Clinton—R. F. Luse
Dallas-Guthrie—H. W. Smith
Davis—H. C. Young
Decatur—G. P. Reed
Delaware—H. H. Ennis
Des Moines—F. G. Ober
Dickinson—T. L. Ward
Franklin—R. T. Day
Hamilton—F. F. Hall
Hancock-Winnebago—C. V. Hamilton
Henry—B. D. Hartley
Howard—D. O. Maland
Iowa—C. F. Watts
Jasper—J. W. Billingsley
Jefferson—L. D. James

Johnson—S. C. Ware
Johnson—J. W. Dulin
Johnson—K. H. Flocks
Keokuk—D. L. Grothaus
Lee—L. C. Pumphrey
Linn—C. H. Stark
Louisa—L. E. Weber
Lucas—Dean Curtis
Madison—I. K. Sayre
Mahaska—R. M. Collison
Marion—R. V. Mater
Marshall—O. D. Wolfe
Monona—E. C. Junger
Monroe—C. C. Fowler
Muscatine—C. P. Phillips
O'Brien—T. D. Kas
Page—G. H. Powers
Palo Alto—W. A. Johnson
Plymouth—W. L. Downing
Polk—M. I. Olsen
Polk—F. C. Coleman
Polk—M. T. Bates
Polk—J. A. Downing
Pottawattamie—C. V. Edwards
Poweshiek—S. D. Porter
Scott—George Braunlich
Scott—W. C. Goenne
Story—E. B. Bush
Tama—C. W. Maplethorpe
Union—A. F. Watts
Van Buren—L. A. Coffin
Wapello—C. A. Henry
Warren—L. E. Hooper
Wayne—C. N. Hyatt
Webster—E. M. Kersten
Woodbury—E. M. Honke
Woodbury—F. D. McCarthy
Worth—S. S. Westly
Wright—G. E. Schnug

ALTERNATES

Dubuque—D. F. Ward
Fayette—M. G. Beddoes
Jones—T. R. Dolan
Pocahontas—J. B. Thielen
Polk—C. W. Losh
Polk—A. G. Fleischman
Winneshiek—A. F. Fritchen

STATE SOCIETY OFFICERS

President—N. G. Alcock
President-elect—T. F. Thornton
Secretary—A. B. Phillips
Treasurer—N. B. Anderson
Trustee—W. A. Sternberg
Trustee—B. T. Whitaker
Trustee—R. N. Larimer
Councilor—M. T. Morton
Councilor—H. A. Housholder
Councilor—C. A. Boice
Councilor—E. B. Howell
Councilor—J. G. Macrae

The Speaker: We will have reports of officers. Do you have a report, Mr. Secretary?

The Secretary: Yes, sir. Mr. Speaker, I *move* that the reports as printed in the Handbook be accepted.

Dr. Boice: I *second* the motion.

[The motion was put to a vote and was carried unanimously.]

Report of Officers

REPORT OF THE SECRETARY

House of Delegates, Iowa State Medical Society:

Herewith is the secretary's report for the year 1949:

Membership

The membership record of each county will be found in the tabulated forms on the following pages. In 1949 we gained 58 new members and we lost 50 through death. The total membership more nearly approaches the figure it had attained prior to the war, reaching a total this year of 2,484 members. Of these, 170 were life members and 90 were residents or men in service for whom dues were waived. The tabulation shows that there are 103 physicians in the state eligible for membership who do not belong, that there are 47 doctors who are not eligible and that there are 129 who are retired or not in practice. Our membership percentage in proportion to the number of eligible doctors is 96 per cent.

One Hundred Per Cent Counties

This year the number of counties which had 100 per cent membership rose to 56. They are listed as follows:

Adams	Hardin	Pocahontas
Appanoose	Henry	Polk
Audubon	Humboldt	Poweshiek
Boone	Ida	Ringgold
Bremer	Jackson	Sac
Buena Vista	Louisa	Scott
Butler	Lucas	Story
Calhoun	Madison	Tama
Cerro Gordo	Mahaska	Taylor
Chickasaw	Marion	Union
Clay	Marshall	Van Buren
Davis	Monona	Wapello
Delaware	Monroe	Warren
Des Moines	Montgomery	Washington
Dickinson	Muscatine	Wayne
Emmet	O'Brien	Winneshek
Floyd	Osceola	Woodbury
Greene	Palo Alto	Worth
Grundy		

1949 MEMBERSHIP RECORD

County	Members	Eligible	Ineligible	Not in Practice or Retired	Percentage
Adair	7	1	...	...	88
Adams	5	...	...	...	100
Allamakee	9	1	...	1	90
Appanoose	15	...	...	1	100
Audubon	6	...	...	...	100
Benton	19	1	...	...	95
Black Hawk	83	2	2	...	98
Boone	20	...	1	...	100
Bremer	18	...	...	...	100
Buchanan	14	2	2	...	88
Buena Vista	19	...	...	...	100
Butler	10	...	...	...	100
Calhoun	20	...	...	...	100
Carroll	26	1	...	1	96
Cass	14	2	1	1	88
Cedar	8	5	...	...	62
Cerro Gordo	56	...	1	1	100

County	Members	Eligible	Ineligible	Not in Practice or Retired	Percentage
Cherokee	14	3	...	5	82
Chickasaw	13	...	...	...	100
Clarke	5	1	...	...	83
Clay	12	...	1	1	100
Clayton	14	3	...	5	82
Clinton	49	2	3	1	97
Crawford	7	5	...	2	58
Dallas-Guthrie	31	1	2	...	97
Davis	14	...	...	...	100
Decatur	7	2	...	...	77
Delaware	12	...	...	2	100
Des Moines	42	...	1	1	100
Dickinson	7	...	...	...	100
Dubuque	67	4	1	1	94
Emmet	13	...	...	...	100
Fayette	25	2	...	3	93
Floyd	18	...	...	1	100
Franklin	11	1	...	1	92
Fremont	10	1	...	...	90
Greene	21	...	...	1	100
Grundy	13	...	...	...	100
Hamilton	17	...	...	1	100
Hancock-Winnebag	19	1	...	1	95
Hardin	20	...	1	2	100
Harrison	10	4	1	2	71
Henry	18	...	1	1	100
Howard	9	1	...	...	90
Humboldt	10	...	...	...	100
Ida	8	...	1	1	100
Iowa	11	1	...	...	92
Jackson	14	...	...	...	100
Jasper	18	6	...	...	75
Jefferson	14	1	...	...	93
Johnson	158	19	...	10	89
Jones	12	2	...	...	86
Keokuk	12	1	...	1	92
Kossuth	15	2	2	...	88
Lee	37	3	1	2	92
Linn	118	3	2	5	98
Louisa	5	...	...	1	100
Lucas	11	...	...	1	100
Lyon	6	1	...	1	96
Madison	6	...	...	...	100
Mahaska	23	...	1	1	100
Marion	25	...	...	11	100
Marshall	42	...	...	2	100
Mills	8	1	...	1	89
Mitchell	13	2	...	1	87
Monona	12	...	...	1	100
Monroe	10	...	...	2	100
Montgomery	17	...	...	...	100
Muscatine	22	...	2	...	100
O'Brien	19	...	...	1	100
Osceola	11	...	...	...	100
Page	28	2	...	4	93
Palo Alto	16	...	...	...	100
Plymouth	12	3	...	2	80
Pocahontas	11	...	2	1	100
Polk	318	...	7	9	100
Pottawattamie	64	5	2	4	93
Poweshiek	17	...	...	...	100
Ringgold	5	...	...	...	100
Sac	14	...	...	...	100
Scott	100	...	3	6	100
Shelby	6	2	...	1	75
Sioux	16	1	...	...	94
Story	38	...	1	1	100
Tama	16	...	...	2	100
Taylor	6	...	...	...	100
Union	14	...	...	1	100
Van Buren	5	...	1	1	100
Wapello	47	...	1	3	100
Warren	8	...	...	1	100
Washington	22	...	...	1	100
Wayne	8	...	...	1	100
Webster	48	1	...	...	98
Winneshek	14	...	...	2	100
Woodbury	123	...	3	8	100
Worth	6	...	...	...	100
Wright	18	1	...	3	95
Total	2,484	103	47	129	96

Number of One Hundred Per Cent Counties by Districts

First	4	Sixth	5
Second	4	Seventh	2
Third	7	Eighth	7
Fourth	5	Ninth	8
Fifth	5	Tenth	6
Eleventh	2		

Location of New Physicians

Many communities in Iowa desire a doctor. The central office has worked during the year as a clearing house to provide information about locations to doctors wishing to settle in Iowa and also endeavoring to obtain a physician for the communities wishing one. The year has seen a greater awakening on the part of the community to its responsibility toward a doctor. Most of them are making sure that there is adequate housing available for him, both as to office and residence. Others are offering financial inducements for a physician. In return, many of the doctors are showing a tendency to locate in the rural areas. A map drawn covering the eight months from the first of May to the end of 1949 shows that 59 physicians located in rural areas for that period of time. Prior to that a two-year map shows that 100 physicians had located in rural areas. The newspapers throughout the state have also cooperated in this effort to obtain physicians for rural areas and several feature articles have been written regarding the situation, pointing out the responsibility of the community.

National Education Campaign

The great majority of the pamphlets distributed in the national education campaign were mailed from the central office. The Polk County Woman's Auxiliary was responsible for an intensive drive in the spring months. This was followed by a drive through the office proper to all parts of the state. Work was done with many insurance companies and about a million folders were provided to these companies. The folders were sent along with premium receipts to individual policyholders all over the country. Early in the year many of the pamphlets were prepared by the office personnel—later those prepared by Whitaker & Baxter were utilized. The number going through the central office is enormous and the effect of the campaign in Iowa has been most noticeable. Doctors have cooperated well and have ordered large supplies of the various forms of literature.

A.M.A. Assessment

The collection of the \$25 A.M.A. assessment in 1949 placed a great deal of additional work on the secretary's office. The county society secretaries were most helpful in aiding in this collection but it required many individual letters from the central office. We are happy to state that Iowa ranked twelfth in the collections.

Financial Report

The By-Laws state that the secretary shall collect the funds of the Society and turn them over to the treasurer. This has been done and the treasurer's report will give the detailed statement of income and expenditures.

Allan B. Phillips, Secretary

REPORT OF THE BOARD OF TRUSTEES

Since the Board of Trustees presented a comprehensive report to a special meeting of the House of Delegates in January, no written report will be given at this time.

W. A. Sternberg, Chairman
B. T. Whitaker
R. N. Larimer

REPORT OF THE FIRST COUNCILOR DISTRICT

Most counties in the First District have had their usual busy year. Some counties with only six to eight doctors have had few monthly meetings but others have had regular monthly meetings and fine scientific programs.

The fight against socialized medicine has been carried on in nearly every county and I feel sure the district has made itself felt by its messages to our Senators and Representatives.

Three new hospitals that were sorely needed are nearing completion in our district. This fact will enable the district to give much better care to the sick and afflicted. Enrollment in Blue Cross and Blue Shield is steadily increasing, thus creating a need for more hospital beds while providing a voluntary plan for meeting the costs of medical care. We feel this is the way it should be and that it is far superior to the government's proposed program.

It is too early to know if the increased state and American Medical Association dues will affect our membership to any extent, but it is my personal opinion they will not. Most of our doctors recognize the necessity for them. Interest in the state meeting is high and many of our members plan to attend the session in Burlington.

L. L. Carr, Councilor

REPORT OF THE SECOND COUNCILOR DISTRICT

Conditions in the nine north central counties comprising the Second Councilor District are running smoothly and normally. The counties have participated in immunization programs, tuberculosis case-finding projects, and other worthwhile undertakings. There have been a few additions to the profession and one or two deaths. The reports of the deputy councilors follow.

C. H. Cretzmeyer, Councilor

Butler County—Butler county held nine meetings in conjunction with the Auxiliary. The physicians voted to aid the cancer committee in the county. There were no changes in the membership of the county society, with no new members, no departures and no deaths.

Bruce Ensley, Deputy Councilor

Hancock-Winnebago—During the past year the Hancock-Winnebago Medical Society held three meetings. At the first, Dr. Harold Morgan of Mason City gave an outline of the work of the American Cancer Society. At our second meeting a motion picture film on the treatment of peptic ulcer was shown. At the third meeting Dr. F. H. Pugh of Sioux City spoke on the psychosis of childhood.

We have one new member, Dr. Mangan of Forest City, who is now our secretary. Both counties participated in an immunization program and preschool examination of children.

C. V. Hamilton, Deputy Councilor

Humboldt County—During 1949 the Humboldt County Medical Society had four meetings. The programs consisted of movies on medical subjects and informal discussions by the members. No post-graduate course was sponsored by this society, but several of the members attended the course at Algona last fall.

A tuberculosis miniature film program and survey held last November resulted in the discovery of one new active case. All of the doctors participated in giving preschool examinations and immunizations during the summer. This is the third year this program has been promoted in Humboldt county and it is receiving good cooperation from parents, school officials and physicians.

Dr. Cloyce Newman of Bode moved to Topeka, Kansas, to take over his father's practice there. Dr. Nelle Schultz of Humboldt is inactive this year because of ill health.

Ivan T. Schultz, Deputy Councilor

Kossuth County—The doctors of Kossuth county have a new modern hospital known as the St. Anne Hospital, managed and operated by the Sisters of Mercy. The new hospital is the result of several years' effort by the doctors as well as the public. Dr. C. H. Cretzmeyer of Algona is chief of staff.

Worth County—The Worth County Medical Society had a rather uneventful year. All eligible physicians are active members. No deaths and no new members were recorded during the past year. The tuberculosis case-finding program was carried out successfully and a general spring immunization program is being worked up by the county nurse, with our cooperation, to cover the entire county.

Two meetings of business and social nature were held during the year, the members of the Auxiliary meeting simultaneously, and each with 100 per cent attendance. Being a small county with correspondingly small membership, we find it necessary to attend neighboring county and district meetings for the more scientific and technical programs.

S. S. Westly, Deputy Councilor

Wright County—The Wright County Medical Society held four meetings with out-of-county speakers during 1949. All were well attended and evoked much discussion and interest. The annual business meeting was held December 15 with 18 members present.

Immunization programs were held in all the schools of the county with results as follows: diphtheria and tetanus, 123; smallpox, 168; "booster" shots, 90; and Schick tests, 84. The tuberculosis and cancer programs were carried on as usual, through the cooperation of parents and other lay people. A study on proper nutrition was carried on in the rural schools by the county nurse in cooperation with General Mills, Inc. A three day test showed what foods were eaten by the students and what were left untouched, and comparison was made with the essentials of a good diet. Further work along this line will be done in the future.

One physician left the county but another entered. We lost one through death, Dr. Tompkins.

J. H. Sams, Deputy Councilor

REPORT OF THE THIRD COUNCILOR DISTRICT

It is with greatest regret that I must preface my brief report from the Third District by a statement of the irreparable loss to this district in the demise of Dr. J. B. Knipe and his wife. He was the former councilor of this district and had just been re-elected for another term. He had spent a lot of time and effort in the cause of organized medicine. He was respected by all who knew him, both professionally and as a friend. He covered his district well and in so doing was cognizant of all that went on. He looked after the State Society's business in a serious manner and was on his way to fill a speaking date in a neighboring city when he was fatally injured.

The work of this district had been well organized for the year by the deceased, and very little was left for me to do. It is with a humble feeling of inadequacy that I take up where he left off, and hope to carry on. I have had a good response from my deputy councilors in this district. Each county has been doing work against our one common enemy, socialized medicine. There is no real shortage of physicians in the district. As far as I know at this time we have 100 per cent membership in this district.

Several from this district attended the short post-graduate course given at Algona, Iowa.

The Woman's Auxiliary has been doing good work in some localities, and I feel that it should be encouraged. The members can reach the Parent-Teachers' Associations, Women's Clubs, various social organizations and church societies.

I wish to thank all the deputy councilors for their part in this report.

M. T. Morton, Councilor

Clay County—During the year 1949 the Clay County Medical Society held meetings at monthly intervals with the exception of the summer months. Dr. E. V. Christensen of Spencer was president and Dr. Lyle Frink, also of Spencer, was secretary of the Society during the past year.

The Woman's Auxiliary of the Clay County Medical Society was organized during 1949 with the

support of the Society. It had a display booth at the Clay County Fair which was well received.

In the fall of 1949 the Society sponsored a county-wide vaccination program among the schools.

C. C. Jones, Deputy Councilor

Dickinson County—The Dickinson County Medical Society has a membership of seven, which is 100 per cent of the eligible doctors in the county. Dr. F. L. R. Roberts of Spirit Lake is on a year's sick leave. There has been no change of personnel since last year.

In August the Dickinson County Medical Society was host to the summer meeting of the Upper Des Moines Medical Society at the Inn on Lake Okoboji. A clinic for Crippled Children was held at Spirit Lake in September. In October, the Tuberculosis Society conducted a case-finding clinic in which all contacts were given Von Pirquet tests and all reactors were x-rayed. The State Cancer Society sponsored a county meeting in December and the county medical society entertained Dr. Zimmerer at a dinner in Spirit Lake before the meeting.

T. L. Ward, Deputy Councilor

Emmet County—We were all severely jolted by the unexpected death of Dr. and Mrs. J. B. Knipe of Armstrong in October. Dr. Knipe was 100 per cent for organized medicine and he practiced it. It was while in the service of organized medicine that he and Mrs. Knipe met death. We miss him.

As a society, we do not have regular medical meetings but we do have monthly hospital staff meetings and any society affairs that come up are taken care of at a special meeting following the staff meetings.

Our members have taken at least an average part in our semi-annual Upper Des Moines Medical Society meetings, the Sioux Valley medical meetings, and postgraduate courses in our own and adjoining counties. Some of our members also visit the Mayo Clinic for short refresher courses. I know we all return from these various places with a feeling of rejuvenation from the "shot or shots" of medical "hormones" we get at these meetings.

C. Smith Kirkegaard, Deputy Councilor

Osceola County—Two new physicians located in the county during 1949. Meetings are held without fail the first Thursday of each month at the Osceola Hospital in Sibley. The Auxiliary meets with us. Programs consist of movies and other entertainment and the Auxiliary serves refreshments. The meetings are successful and well attended.

Frank Reinsch, Deputy Councilor

Palo Alto County—The Palo Alto County Medical Society has had a very good year both from standpoint of concerted interest shown by the doctors in the problems of the profession as a whole and also in our local situation. Immunization programs have been conducted in several communities in cooperation with the schools.

During the past twelve months two new young doctors have joined our society. Dr. H. E. Soren-

sen, graduate of the University of Wisconsin and recently discharged from the army, has established himself at Graettinger, and Dr. R. D. Workman, graduate of the University of Iowa, also after an army career, has engaged in practice at Ruthven. One of our members of whom we all are proud, Lt. Col. Maurice C. Davidson, has recently been transferred to the Rodriguez General Hospital, San Juan, Puerto Rico, where he is Chief of Medicine.

The thing of local interest which has engaged most of the thought and effort of the members of our society has been the enlargement of the Emmetsburg Hospital. Work on the structure started during the fall of 1949. It will provide additional space for about 25 beds and should be ready for occupancy by Easter.

Harold L. Brereton, Deputy Councilor

Sioux County—In 1949 we had 16 members out of a total of 17 doctors in the county. Three new physicians located in the county and joined the society, Dr. L. Mulder at Hospers, Dr. Robert Zeilenga at Orange City and Dr. D. K. Haggard at Hawarden. Three meetings were held during the year. At the first, in March, Dr. Haggard discussed the treatment of burns and presented case reports and a film on proctology was shown. At the second, in June, we met with members of the O'Brien, Plymouth, and Cherokee societies and their wives at the Le Mars Country Club for a social get-together. In December we held our annual business meeting and Dr. Mulder presented a paper on "Fluid Balance of the Body." Life membership was granted to Dr. Oggel of Maurice at this meeting.

Wm. Doornink, Deputy Councilor

REPORT OF THE FOURTH COUNCILOR DISTRICT

The year 1949-1950 has shown a decided increase in activity in the Fourth Councilor District. In August a district meeting was held in Ida Grove at which meeting 32 physicians and 15 guests were in attendance. The activities of the State Society and the AMA were presented by several of the state officers and plans are being made to make the district meeting an annual event.

The councilor has visited eight of the nine counties in the district during the past year and it is evident that the societies and the individual members are providing good scientific medicine with increasing attention to the distribution of good medical care. With one exception all the county societies are active and plans are being made to reorganize this other county unit.

Hospital construction is under way in several counties; new hospitals have been or will be built in Storm Lake, Alta, Kingsley, Sac City and Denison. Additions are planned in Cherokee and Sioux City. Ample hospital facilities will soon be available in each county in the district. It is around these hospitals in the smaller cities that the county society functions best. Hospital staff programs with

county society business meetings appear to be the solution. The Woodbury County Society continues to have a comprehensive program of activities.

The supply of physicians appears to be adequate in each county and many new physicians have located in the district. Some small towns are without physicians but it is doubtful if any of these can secure and hold new physicians.

A course of postgraduate lectures was given during the year in Le Mars. Five excellent programs were given weekly during September and October with an average attendance of 27 physicians. Throughout the district the educational program of the AMA has been advanced by the distribution of literature and talks to lay groups. The councilor has drawn up a seven-point program of activities for the county societies and efforts are being made to put these suggestions into effect.

In all of the hospital areas Blue Cross coverage is increasing. Except for Woodbury county there is little Blue Shield activity but plans have been made to spread our voluntary insurance in the rural communities. The attendance of the delegates from northwest Iowa at the special meeting of the House of Delegates in Des Moines in January was disappointing. The House is the policy-making group in our state society and each elected delegate owes it to the county and state organizations to attend regularly and to take part in the meetings. If the same delegate attends each year he can perform a valuable service as liaison between the county unit and the state organization. The cooperation of the deputy councilors has been excellent and this office should and can be vital to each county society.

Wendell L. Downing, Councilor

REPORT OF THE FIFTH COUNCILOR DISTRICT

The following are the reports of the counties of the Fifth Councilor District reported to me by the deputy councilors. It is to be noted that there has been considerable activity throughout the district with more and better meetings and particular interest in regard to the socialized medicine aspect. The district had one general meeting which was held at the Holst Hotel at Boone, being quite well attended with around 100 present. The arrangements for the meeting were made by the Boone County Medical Society with Drs. Scharnweber and Whitaker being very active in making it a great success. At this meeting the president and president-elect of the Iowa State Medical Society were present as were a number of past presidents and officers. All in all it was a grand success.

E. F. Beeh, Councilor

Boone County—The Boone County Medical Society had a membership of 21 physicians at the close of the year. This is 100 per cent of the eligible physicians in the county. The society was saddened by the untimely death of Dr. M. M. Shaw of Madrid early in the year. Dr. Shaw was a faithful member of the society and his passing will leave a notice-

able gap not only in the community he served so well but in the hearts of all of us.

Our society met at monthly intervals for a dinner and scientific program. Due to the small size of our group, we have joined forces with the Story County Medical Society for our scientific meetings and our meetings are held in Boone or in Ames on alternate months. Attendance has averaged 75 per cent throughout the year. We have been fortunate in securing very excellent speakers for our scientific programs, viz. Dr. Wallace Herrell of the Mayo Clinic, Dr. James K. Stack, Chief Surgeon, C. & N. W. Railroad, Dr. William Bean, University of Iowa College of Medicine, and Dr. John W. Dulin of Iowa City, to mention but a few.

The cooperation of the members of the society and the public schools of the county has been very close. Preschool physical examinations are conducted during the summer months, and then when school starts in the fall, every child in the entire school system is given a physical examination. Inoculations for diphtheria and smallpox vaccinations are also given in the schools under the direction of the school nurses.

Boone county is extremely proud of its tuberculosis control program. The County Medical Society in cooperation with the Boone County Tuberculosis Association and with the able guidance of Dr. B. T. Whitaker has set up what is probably one of the best control programs in the state. This program has been in effect for three years and has been very successful. A 4 by 5 stereo x-ray of the chest is made on every school child in the county in kindergarten, the 7th grade, 9th grade, and the 11th grade each year. Thus a child is followed throughout his school years. If a suspicious lesion is found on the x-ray plate, the child is referred to the family physician for a skin test and physical examination.

The expense of this program is underwritten by the County Tuberculosis Association. The people of Boone county have become very tuberculosis conscious and are cooperating with us to the utmost in our efforts to wipe out this disease in Boone county.

The fight against the threat of socialized medicine was not overlooked by our society. In cooperation with the Woman's Auxiliary a public forum was sponsored in Boone on November 11 with Mrs. Molly Samore of Sioux City and the Honorable James Dolliver of Fort Dodge, U. S. Representative from the Sixth Congressional District, as the speakers. This meeting was attended by a capacity audience which was very gratifying.

In retrospect the year 1949 has been most successful, with the Boone County Medical Society contributing to the general health and welfare of the county and its individual members profiting immensely from their associations together.

H. C. Scharnweber, Deputy Councilor

Calhoun County—The Calhoun County Medical Society held nine scientific meetings in 1949, using

local and guest speakers and films. In October a joint meeting was held with Sac, Buena Vista and Pocahontas counties. The attendance has been good and interest is high.

W. W. Weber, Deputy Councilor

Dallas-Guthrie Counties—Dallas-Guthrie Medical Society is a joint society of Dallas and Guthrie counties. We hold five regular meetings a year in the months of September, November, January, March and May. Our meetings consist of a joint dinner with our wives of the Woman's Auxiliary followed by our business meeting which consists of at least one scientific paper and whatever routine business of the society needs to be transacted.

Our membership is practically 100 per cent. We usually have attendance of about 50 per cent which runs between 15 and 20 men. Our members paid the \$25 AMA assessment except two who are relatively inactive. We support the county health nurse in Dallas county, and have advisory committees for case findings in tuberculosis and cancer detection. We have been very active in an educational way in informing the public concerning compulsory health insurance.

C. A. Nicoll, Deputy Councilor

Greene County—The Greene County Medical Society held meetings regularly all year except during the months of June, July and August. It has for some time been the custom here not to have regular meetings during those three warm months. Attendance at the meetings has been fair. Out of a possible 19 members, three of whom are quite old, there has been about an average of 10 or 11 members present. Our meetings have consisted chiefly of what we could work up in our own society, such as members discussing some interesting cases or an educational film. Our membership and attendance is not large enough to ask or expect speakers to come any great distance for every meeting. If I may say so, I think that is one of the serious faults of the county medical societies which have a small membership. However, we had one good meeting in May with a guest speaker which was attended by several members from Guthrie and Carroll counties. Ordinarily we can have one or two good meetings a year of that nature and draw a good attendance.

Each year our county society takes care of the preschool vaccination and inoculation program. We have had no meetings taking up the subject of cancer or tuberculosis specifically. Dr. A. J. Jongeward was appointed and has met with the lay members of the American Cancer Society. His report consisted of what the American Cancer Society would do for the worthy cancer patients such as furnishing testosterone, etc. I think our county is being well taken care of in regard to tuberculosis. A regular case-finding program was carried out this last fall through the county health nurse with the help of the State Department of Health. In addition to this the tuberculosis association of this county pays for any chest x-ray taken any time at

the Greene County Hospital which the attending physician requests, and which the physician feels may have any relationship to tuberculosis whether it be for eliminating the diagnosis of tuberculosis, or possibly even x-rays of contacts. This has been in effect since January 1948, and it seems to be working quite well. In fact, as the tuberculosis and heart societies are now combining, the plan in our county will probably soon include payment of all x-rays deemed necessary by the physician for heart trouble. I do not know whether any other such plans as this are in effect in the state, but at least it is on trial here in our county at the present time.

L. C. Nelson, Deputy Councilor

Polk County—This has been an exceedingly active year for the Polk County Medical Society. Two policies have been followed. The first has been to perfect our medical services to the community. The second has been to let the community know what services are available.

Through society organization and with the support of its members, a complete program of medical care is guaranteed to every citizen of Polk county. The society maintains an information service for the public. An emergency telephone call service supported by about 100 members of the society was inaugurated during the year. A committee of the society was designated to review grievances and to serve as an advisory committee to Iowa Medical Service in disputed cases.

The society contributed \$1,000 to a Broadlawns Hospital Student Nurses Loan Fund to help assure us of adequate nursing services at that institution and, later, professional nurses in our private practice.

Regular meetings of the society were held throughout the year except for the summer months. Guest speakers were scheduled for all but one program and the subjects were of a varied nature designed to be of general interest. On three occasions guests were invited by the society because of the nature of the program. The average attendance throughout the year was about 130.

The total active membership of the society is at an all time high. Only three eligible members of the profession practicing in this county did not hold membership at the close of the year. The three of them have since applied for membership. County society dues were increased to become effective in 1950 providing much needed revenue for support of our many activities. A large portion of our membership serve on active committees of the society.

With added attendance at our meetings and more intense interest and participation in society affairs, a more effective community service and professional advancement is anticipated.

Richard J. Steves, Deputy Councilor

Story County—During the fall and winter months Boone-Story County Medical Societies met in regular sessions on the third Tuesday of each month with a dinner and speaker for the evening. These meetings are always "postgraduate."

Story County Medical Society had a Sunday morning breakfast when there was something important to be taken up by the group. We contributed \$25 per member for the defense of medicine as well as to one other promotion. We met in regular meeting December 4, 1949, for the election of officers.

All city, rural and consolidated schools have carried on the program for diphtheria, tetanus and smallpox immunization. The city of Ames has its own city nurse and school nurse with an attending M.D. supervision.

The County Health Council has carried on a health program with the assistance of the county nurse and her aid.

Bush Houston, Deputy Councilor

Webster County—In the year 1949 the Webster County Medical Society held its routine business and professional meetings as well as cooperating throughout the county in the holding of immunization programs. Besides these routine meetings, in March 1949, the society sponsored a symposium on the use of the newer antibiotics in the treatment of tuberculosis.

In June of the same year the society was host to the State Urological Society and entertained Dr. Carl Rusche, president of the American Urological Society, as guest speaker for the physicians of the surrounding counties.

In late October 1949, the society invited all physicians of the Fifth Councilor District to attend a buffet meeting, which was addressed by a United States Representative from Iowa, the Honorable James Dolliver, who gave a most interesting report on his observations on socialized medicine as carried out in Great Britain. This report was the result of Congressman Dolliver's personal observation as a member of the Congressional Committee which went to Great Britain to investigate this program.

Beginning in June of 1949, and running for 12 consecutive weeks, the society sponsored a series of weekly radio programs entitled "Your Doctor Speaks Against Socialized Medicine." These programs resulted in a large number of favorable comments from individuals and the press.

The Webster County Medical Society looks back on the accomplishments of 1949 with some degree of pride and is already laying plans for an even more successful 1950. It urges all physicians in the Fifth Councilor District to attend any of these meetings.

Charles J. Baker, Deputy Councilor

REPORT OF THE SIXTH COUNCILOR DISTRICT

During my term as councilor there have been many changes in the activities of the State Society. Viewing them in retrospect one is startled at the differences between ten years ago and now. One change which is to be deplored is the inactivity of the Council. Possibly this is due to poor definition of its duties but the fact remains that it should be reactivated and the councilors elected should be

doctors who have a great deal of interest in state and district affairs and who are willing to devote time and effort to the good of the organization. It also appears that the suggestion of employing a full time business manager of the Society who can coordinate its activities has much merit.

The Sixth Councilor District held a meeting in Waterloo on August 16 which was most successful. Principal speakers were Dr. N. G. Alcock, president, Mr. I. W. Myers, Dr. Martin I. Olsen, and Dr. R. D. Bernard. All persons present were given an opportunity to "take down their hair and talk things over."

The Cancer Institute held in Grinnell in November was well attended. The lectures were of high quality and the attendance of doctors was very gratifying. The dinner served in the dormitory was one to be long remembered.

The larger cities of this district have had access to many medical meetings the past year. We believe in the activities entered upon by our president and president-elect.

James C. Hill, Deputy Councilor

REPORT OF THE SEVENTH COUNCILOR DISTRICT

The activities for the past year in the Seventh District have been much the same as in the past, except that our concern over socialized medicine has always been a prominent part of every county meeting. During the year one district meeting was held at Monticello where the entire discussion was given over to our public relations problems. Keen interest was shown by all present and the discussion was very general.

Each of the counties participated in the public health problems in the immunization program both in the schools and with children of preschool age.

The reaction of the society members throughout the district to the decision reached in the recent special meeting of the House of Delegates was favorable.

The hospital improvement program in the district has been going well. Some counties are building an entirely new structure, while practically every existing hospital has been adding to its capacity by construction of new wings.

H. A. Housholder, Councilor

Clinton County—The Clinton County Medical Society was fairly active during the year 1949. Several talks by different men were given on socialized medicine. We are active in the Tumor Clinic and one of our men, Dr. Vernon W. Petersen, was elected vice president of the state cancer society. We have had several scientific meetings during the year but have not met every month.

Three new doctors have located here; two young men have entered into practice as assistants to two of the older men in DeWitt and one man has moved from Preston (on the edge of Jackson county)

into the city of Clinton. There have been no deaths among the county members.

We participated in the program of immunization of the school children against diphtheria and smallpox, and approved the taking of films for detection of tuberculosis. The society also contributed liberally to the cause of the fight against socialized medicine and made contributions to the two local hospitals and the building fund of the new hospital they expect to build in DeWitt.

There was very little comment on my report of the recent meeting of the House of Delegates. We do not like to spend more money than necessary but the doctors were all well aware of the need, and no objection was made known to me.

Ralph F. Luse, Deputy Councilor

Delaware County—With the exception of the summer vacation months, June, July and August of 1949, the Delaware County Medical Society met once monthly during that year. At all the meetings, except the December one, a guest speaker was obtained from out of town. In December the meeting was purely a social one with the medical Auxiliary taking part.

Four new doctors have located in the county during the past year and have joined our society. They are: Warren Zabloudil and Marvin Piburn at Hopkinton; Paul Meyers at Manchester, and Charles C. Griffin at Dyersville.

The reaction of the society to the decisions of the recent special meeting of the House of Delegates was favorable.

W. J. Willett, Deputy Councilor

Johnson County—The Johnson County Medical Society continues in a healthy growing condition. During the past year eight meetings have been held, in addition to the annual picnic. There have been four guest speakers. One meeting was addressed by Prof. Saunders of the Department of Sociology of the University of Iowa on some of the social aspects of the practice of medicine. We have 218 members as compared with 228 for 1948. Our average attendance has been 101, not a very impressive percentage. Forty-eight new active members have joined and four non-resident and two affiliate members have been admitted. Two members have been lost through death and thirty-one have transferred. No new physicians have located in the county outside of Iowa City.

Geo. C. Albright, Deputy Councilor

REPORT OF THE EIGHTH COUNCILOR DISTRICT

Each of the societies in this district has conducted its usual activities during the year. The Muscatine society has not had regular programs but the members have agreed to attend meetings in nearby counties.

There are but four active physicians in Van Buren county and still they are carrying on. It might

be interesting to call attention to the fact that in 1876 Van Buren county had 49 physicians and in 1895 it had 36 physicians. In this district in 1876 there were 348 physicians, the majority of whom were in the small country villages. Louisa county had 26, Henry 29, Lee 55, Des Moines 31, Jefferson 27, Muscatine 36, Scott 60 and Washington 35. Of late years the tendency has been to locate in the larger towns and cities, but with good roads and telephones, the country districts are as well as or better served than they were in those early days.

Special meetings in the district the past year included a business meeting which was called at Burlington by the president of the State Society at which time state problems were discussed. It is my impression that such meetings should be held yearly to discuss the problems of the State Society and of the profession in general.

Another meeting held in Burlington was a cancer institute manned by capable speakers. If I may offer a criticism at this time, it would be this: My understanding is that these meetings are to help the general practitioner by giving him pointers by which he can recognize malignant conditions easily, but the program in point did not fill the bill.

A meeting with dentists and doctors was also held in Davenport.

C. A. Boice, Councilor

Des Moines County—The Des Moines County Medical Society had its usual nine meetings last year. Our program for the past year dealt mainly with economic problems and a review of literature pertinent to state medicine. Throughout the year we had groups of speakers participating in all community projects that were willing to listen. In addition, we sponsored a group of lay speakers among which were women, whom we felt were capable of reaching out further than the profession itself. By this combination we feel that we have covered the waterfront fairly well in dispensing information.

We have an additional seven young men in the community all of whom were active in the society. Throughout the year we cooperated with the health center and the vaccination clinic which is an annual project occurring in November.

Frank G. Ober, Deputy Councilor

Henry County—The Henry County Medical Society held regular monthly meetings both social and scientific. The Woman's Auxiliary has met regularly with us for dinner.

The high points in our program have been as follows:

In May, Dr. L. H. Prewitt of Ottumwa spoke on Common Allergies; a summer meeting at the Country Club, New London, which was arranged by Dr. E. J. Lessenger; in October, Dr. Robert Carney of the State University of Iowa spoke on common skin lesions, and in November, we were guests of the State Hospital Staff and Dr. Robert Graves spoke on Group Psychotherapy.

All in all it has been a very successful year. There have been no deaths and no new men have moved into the county.

J. Stewart Jackson, Deputy Councilor

Lee County—The Lee County Medical Society held four meetings in 1949, with speakers from Chicago, Burlington and Des Moines presenting the programs. The December meeting had to be cancelled because of icy roads. Four new members were admitted during the year: Dr. Walter Kasiske of Keokuk, Doctors George McGinnis and M. E. Godbey of Fort Madison, and Dr. L. N. Spahnheimer of Donnellson.

R. L. Feightner, Deputy Councilor

Louisa County—The Louisa County Medical Society was not very active during 1949, although four meetings were held. Membership held to the 100 per cent mark.

J. H. Chittum, Deputy Councilor

Muscatine County—The Muscatine County Medical Society has not been very active during 1949, having had no scientific meetings. It has been the feeling that our society is too small to justify asking an outside man to come or a local man to work up a paper for the size of audience he would attract. We have, therefore, gone on record as favoring attending district and state meetings for scientific purposes rather than local.

Our chief program has been that of trying to get a new county hospital built which would be adequate for the territory it would serve. We are making definite progress toward that end.

Dr. V. W. Swayze, formerly of Denver, Colorado, came to Muscatine in June, 1949, and is associated with Dr. E. H. Carlson and Dr. W. W. Daut. No physicians have left Muscatine County and there were no deaths during 1949.

C. P. Phillips, Deputy Councilor

Scott County—The Scott County Medical Society program goes along as usual with extra frills added. More doctors are talking to lay groups on the various subjects outlined.

Our meetings are all well attended. The society meets at 6 o'clock and all the members are present for dinner. Then at 6:40 the movie feature is put on the screen; it takes about 20 minutes. The film is selected by a special committee appointed to investigate and give us the latest and best that may be had. At 7 o'clock our main program begins. I can safely say, barring impossible weather, the meetings are well attended.

New doctors are being welcomed into the society nearly every month.

The corporation formed to deal with the County Board of Supervisors has renewed its contract and will continue to take care of the indigent for another year.

A. P. Donohoe, Deputy Councilor

Van Buren County—We had four meetings this year, in March, June, September and December. We

did not have any papers but rather a round table discussion at which time we went over our own cases. At the December meeting we had our election of officers.

L. A. Coffin, Deputy Councilor

Washington County—Washington County Medical Society held nine meetings during the year. Seven of these were scientific. The programs were usually furnished by some member of the University faculty. Meetings were always dinner meetings and were attended by at least 75 per cent of the doctors in the county.

The October meeting was a turkey dinner at Wellman to which the wives and some other guests were invited. This has been an annual event with this society for several years. The speaker at this meeting was Colonel Hinman, Ret., of the Sanitary Corps of the United States Army, who related some of his experiences in Japan. He showed many pictures of that country.

The December meeting was a business meeting only.

There was one death during the year, Dr. Francis Mahin, who had practiced a number of years at Ainsworth, but who had lost his sight and had been living in Washington for a number of years.

Two new doctors came to the county during the year: Dr. P. D. Boekelheide, a Minnesota graduate, settled in Riverside; and Dr. J. R. Mason, a Yale graduate who had been in Shanghai and Hawaii for two or three years, is now located in Ainsworth.

E. D. Miller, Deputy Councilor

REPORT OF THE NINTH COUNCILOR DISTRICT

All the county societies of the Ninth District are active. They have all had three or more meetings during the year. Wayne, Lucas and Wapello counties hold monthly meetings for nine months of the year. There have also been several special meetings held in the district, one at Albia in August which was attended by our State president, Dr. Alcock, a district meeting at Centerville for the discussion of the cancer problem, and postgraduate meetings in Ottumwa, numbering five, commencing in September and ending in January. The latter was very well attended, having an average attendance of about 35. All county societies are participating in the public health program and also the 4-H Program. They are supporting the Blue Cross and Blue Shield Programs. An auxiliary has been organized in Wapello, Mahaska, and Appanoose counties, and is in the process of being organized in the other counties.

There is a movement to have each county hold one meeting a month devoted to the study of legislative and other matters pertaining to compulsory health insurance. This has already been established in Wapello county, in conjunction with the Woman's Auxiliary.

I have not visited all the medical societies personally this year, but I have been in direct communication by telephone and letter with all of the

societies and I have had the close cooperation of the officers of the societies in any work that was requested.

I wish it were possible to send in the reports that I have received from each deputy councilor as they were all very complete, but space will not permit, so I have attempted to summarize the situation in the Ninth District. There is a shortage of general practitioners in Davis, Lucas and Keokuk counties. There is need for an eye, ear, nose and throat man in Mahaska county. This information I have received from deputy councilors. The hospital situation seems to be pretty well covered in all counties except Wayne and Lucas.

E. B. Howell, Councilor

REPORT OF THE TENTH COUNCILOR DISTRICT

A compilation of data derived from the reports of various deputy councilors of the Tenth District is not encouraging as to the location of new physicians in the district. There have not been more than three new practitioners locate here. At present, there are two counties that have but three active practicing physicians.

One county has held regular meetings monthly; several have held quarterly meetings; and the remainder but one a year. With the opening of five hospitals in the district in the coming year, two

of them in counties with but three practitioners, we expect to see new men situating in these counties. There have been two district meetings during the past year and several county meetings of interest to which doctors from surrounding counties have been invited, all meetings being well attended.

The district was made much poorer in the loss of Dr. E. E. Shaw of Warren county, who was an outstanding man both as a physician and as a man who was always to be relied on as a representative from the district and who served so well on so many state assignments.

James G. Macrae, Councilor

REPORT OF THE ELEVENTH COUNCILOR DISTRICT

We have had a number of excellent meetings over the district, some with pharmacists and some with dentists. All are working in unison to strike down socialized medicine. Too many people do not recognize the dangers of socialism and communism in our country. The admission of displaced persons from Europe is a question not easily decided.

Our district will do all it can to help the State Society and American Medical Association in their programs for the welfare of the people.

W. S. Reiley, Councilor

Report of Standing Committees

REPORT OF THE COMMITTEE ON CONSTITUTION AND BY-LAWS

The report of the Committee on Constitution and By-Laws will be prepared in mimeographed form and given to each delegate at the first session of the House of Delegates. There are some amendments to the Constitution proposed last year which are to be voted on this year. There will also be some changes proposed by the committee appointed to set up rules and regulations for a Grievance Committee.

Your committee has gone over the Constitution and By-Laws and revised them for grammatical mistakes and for the purpose of clarity. In order that the delegates may vote upon the matter more easily, the committee is having a two column brochure mimeographed, one column containing the present wording; the other the suggested revisions. Comparison will thus be possible and your committee hopes this project will receive the approval of the delegates.

George C. Albright, Chairman

REPORT OF THE LEGISLATIVE COMMITTEE

The last report of this committee to the Society was a special report made at the time of the annual meeting of the Society in April, 1949. At that time the Legislature was still in session, and we were working principally on two matters:

1. The securing of legislation for an increase in the field allotments for our Workmen's Compensation cases.

2. An effort to retain the basic science bill on our statute books.

In both of these endeavors we were successful.

At the present time we are hoping that more members of our Society will be willing to be candidates for seats in the Iowa Senate and House of Representatives in this coming primary campaign. The members of the Legislature who are doctors can be of great assistance in helping their fellow legislators understand legislative problems which affect public health.

Following the sudden death of George A. Kern during the legislative session in 1949, Mr. I. W. "Barney" Myers was secured to act as the attorney for the Legislative Committee. Mr. Myers has been very active during the past fall and winter, having spoken to numerous civic groups upon subjects pertaining to economic problems affecting the medical profession.

John W. Billingsley, Chairman

REPORT OF THE MEDICOLEGAL COMMITTEE

The Medicolegal Committee wishes to report that its duties during the past year have been very light. A few letters of inquiry have been answered and

some general information given. Members of our committee feel that the commercial management of our medical defense problem has been eminently satisfactory. With the promulgation of propaganda favorable to socialized medicine, the public has become a little more critical of the professional conduct of physicians, thus making spurious malpractice suits a bit more frequent.

We have been quite fortunate for a number of years in not having had much malpractice publicity. There are a few fundamental factors in the physician's dealings with the public which help greatly in heading off malpractice suits. They are as follows:

- (1) Taking time to be friendly with patients and their relatives.
- (2) Don't allow your ambition for a large clientele prevent giving each patient adequate attention.
- (3) Don't carry out any risky surgical or medical procedure you would decline having used on you.
- (4) Don't guarantee verbally or in writing the effect of anything you do for a patient.
- (5) When especially dangerous procedures are to be resorted to, be sure to thoroughly inform the patient and the nearest relative.
- (6) Be very careful whose account you submit for legal collection.
- (7) Treat your patients just as you would want to be treated.

We believe one reason why Iowa has been rather lucky in not having an excess of malpractice suits has been the fact that too much fuss has not been made over them and because commercial protection has been well and judiciously selected.

Frank A. Ely, Chairman

REPORT OF THE COMMITTEE ON MEDICAL SERVICE AND PUBLIC RELATIONS

Herewith are reports from various subcommittees of the Committee on Medical Service and Public Relations. They call attention to the principal activities of the committee during the year.

Fred Sternagel, Chairman

National Legislation

The past year has been an exceedingly busy one for this section of the committee. Our Congressional delegation, without exception, has been most cooperative and given the medical profession fine support. Local support of the committee has been better than last year both in interest displayed and in response to our request for Washington contacts.

A fine new group of state medical societies west of the Mississippi river has been developed during the past few months. This group proved its value as an active factor in the defeat of the President's Reorganization Plan No. 1. We should continue our support of the group.

Detailed discussion of the various bills pending

in Congress and affecting the medical profession would be outdated by the time this report reaches the members of the House. As of this date, the most important bills are in the process of re-writing or being amended. There is no specific bill which represents the exact plan or opinion of the American Medical Association.

All but one of the Congressional delegation were contacted between sessions and the same is true of my visit in Washington during the summer. The work of putting on the program of the National Conference on Medical Service which met in Chicago in February was handled by this section of the committee.

The Washington office has been expanded during the past year both as to office space and personnel. Dr. Joe Lawrence is doing an excellent job.

R. D. Bernard, Chairman
Subcommittee on National Legislation

Public Health

During the past year this committee has represented the State Medical Society in the meetings that had for their purpose the development of local health units. This program is progressing rapidly and it is expected that the necessary permissive legislation will be voted in the next legislature. Once this program begins to function, then there will be a desirable decentralization of public health functions.

H. E. Stroy, Chairman
Subcommittee on Public Health

Veterans' Affairs

Your committee on Veterans' Affairs was confronted with several problems this past year, one of which was the nonpayment, through misunderstanding, of between \$40,000 and \$50,000 due Iowa Medical Service from the VA. We met with the manager of the VA at Des Moines and they released about \$16,000. Later a meeting was held with the assistant medical director of the VA and various other officers and a satisfactory settlement was made by them with Iowa Medical Service.

We also had the usual complaint from the VA that some examination reports were incomplete but in most instances satisfactory adjustments were made. Another problem was the excessive number of treatments given.

We renegotiated a new contract effective July 1, 1949, for Part 1 of our fee schedule with a reduction in one or two of our fees and a slight increase in others.

We are unable to agree on Part 2 of the fee schedule as the VA is unwilling to accept our fee schedule and we do not feel we can accept the one submitted by them. However, we feel that there would be very little work under Part 2 and probably not very important at this time as practically all the work under Part 2 is sent to VA hospitals.

Again we express our appreciation for the assistance and cooperation of our Executive Secretary,

Iowa Medical Service, Veterans Administration and participating physicians.

R. C. Gutch, Chairman
E. M. Honke
J. S. McQuiston
Subcommittee on Veterans' Affairs

Social Agencies

The Social Agencies, under the State Department of Social Welfare, consist of the Old Age Assistance; the Aid to the Blind; and the Aid to Dependent Children.

The OAA is currently paying out \$2,400,000 a month to 4,900 recipients; the AB pays out \$64,000 to 1,200 recipients; the ADC pays \$374,000 to 4,800 recipients.

The AB and the ADC programs are on a postpayment basis and are apparently continuing to work out satisfactorily. The OAA is, of course, the largest program and the most difficult one. Dr. Channing Smith has done an excellent service in handling the medical division of the OAA under the difficulties with which he must work. The program pays out approximately \$6 a month to 24,000 recipients, or approximately \$150,000 a month in medical grants.

In order to understand these programs, a few facts are necessary:

They are financed by state and federal funds. The federal funds are handled through the federal security administration, apparently by regulations rather than by law.

According to the regulations, all payments must be made to the recipients rather than to the doctor.

The amounts of the grants are based on the doctor's estimate for a year ahead on the needs of the patients. These estimates are obviously inaccurate. However, the doctor can come closer to the estimate than anyone else.

The greatest difficulty in handling of the OAA is the combination of high mortality in this group and the fact that no payment of any kind can be made in cases of death of the recipient.

There have been objections to the OAA grants. The Buena Vista Society has made definite objections and has sent recommendations to the State Society and Dr. Smith.

Charles T. Maxwell, Chairman
Subcommittee on Social Agencies

Woman's Auxiliary

The Auxiliary has been doing an excellent job in public relations this past year. The President, Mrs. Roger M. Minkel, reports there are now 36 counties organized in the state at the present writing and five counties are in the process of organizing, with a total membership of approximately 900. They have particularly emphasized, in their public relations program, Blue Shield and Blue Cross. They have distributed large quantities of material showing the advantage of the voluntary prepayment medical plans over compulsory health insurance. The

Auxiliary distributed 130,000 pieces of legislative material throughout the state.

After studying the report of the president of the Woman's Auxiliary, I suggest the following:

1. Offices of the secretary of the Auxiliary should be coordinated with the offices within the headquarters of the Iowa State Medical Society.

2. A full-time, or part-time secretary should be acquired to carry on the correspondence of the Auxiliary as all material from the National office comes through the Iowa State Medical Society offices at Des Moines.

3. Although each county Auxiliary has a medical adviser from the county medical society, and this member is supposed to assist the county Auxiliary in its program, up to the present time this has been nothing more than lip service. This reflects a lack of cooperation which should be corrected. This can best be done through the central office as the Auxiliary has grown extensively the past year and the members seem more than willing to carry out the mandates of the Iowa State Medical Society. It is therefore imperative that the proposed program stated above be carried out for the best end results.

James E. Reeder, Chairman
Subcommittee on Woman's Auxiliary

Rural Health

The untimely death of Doctor Shaw who was originally chairman of this section has been a bad blow to all of us. His thought and guidance were of great value and it will be difficult to find another man who will do his job as well.

As temporary chairman I regret to state that very little has been done. I attended the conference in Chicago last February with Dr. Shaw but as yet nothing concrete has come of that.

The State office in Des Moines has been very helpful in assisting counties without doctors to get in touch with interested physicians and several vacancies have been filled. There is also a program being instituted at the University College of Medicine to train men for general practice, hoping that some of these men will locate in rural counties.

Charles A. Nicoll, Chairman
Subcommittee on Rural Health

REPORT OF THE COMMITTEE ON NECROLOGY

The Iowa State Medical Society lost 50 members through death in 1949. The youngest member was 33 years of age, the oldest 99. May we all stand a moment in silence while the secretary reads their names.

Name	Town	Age
George A. Alliband.....	Atlantic	74
Edward W. Anderson.....	Des Moines	50
Atchison A. Ashby.....	Sioux City	88
Murdoch Bannister.....	Ottumwa	80
Guy R. Blackburn.....	Fort Madison	54
Winfred R. Blume.....	Sioux City	47

Irenarch S. Buzard.....	Jefferson	76
Carmi M. Cantrell.....	Iowa City	54
Howard F. Clark.....	Stuart	67
Milton B. Galloway.....	Webster City	68
James J. Galman.....	Sheldon	76
James H. Gasson.....	Shenandoah	80
Lily Kinnier Haisch.....	Dubuque	73
Benjamin C. Hamilton, Sr.....	Jefferson	89
Emmet L. Hawkins.....	Council Bluffs	62
John M. Hayek.....	Des Moines	47
Charles F. Howland.....	Des Moines	69
Charles N. Hyatt.....	Albia	79
Harry F. Kaack.....	Clinton	68
Earl L. Kingsbury.....	Keokuk	45
James B. Knipe.....	Armstrong	68
Robert H. Lott.....	Carroll	66
John W. McCreery.....	Whittemore	71
Francis M. Mahin.....	Washington	80
Joseph E. Marek.....	Mason City	64
John P. Mathias.....	Mediapolis	80
Robert J. Matthews.....	Clarinda	74
Frank Mehler.....	New London	44
James B. Miner, Sr.....	Charles City	80
Mathias J. Moes.....	Dubuque	67
Gage C. Moore.....	Ottumwa	43
Alfred B. Nesler.....	Dubuque	53
Frederick W. Noble.....	Fort Madison	73
Christian Nysewander.....	Des Moines	93
William H. Rendleman.....	Davenport	69
Frank P. Riggle.....	Cedar Rapids	71
John Riley.....	Exira	99
Harley L. Sayler.....	Des Moines	80
Ernest E. Shaw.....	Indianola	57
Mathew M. Shaw.....	Madrid	73
Mayo H. Soley.....	Iowa City	42
Frederic T. Stearns.....	Osage	33
Frank R. Steelsmith.....	Des Moines	74
Joseph B. Thornell.....	Council Bluffs	60
Peter H. Vesterborg.....	Forest City	89
Harry W. Vinson.....	Ottumwa	73
Matt Ware.....	West Branch	65
James R. Wedel.....	Keokuk	79
Carl A. A. Werner.....	Albert City	77
E. Marsh Williams.....	Oskaloosa	79
E. F. Beeh, Secretary		

REPORT OF THE PUBLICATION COMMITTEE

In 1949, to the function of the Journal of the Iowa State Medical Society in informing the members on scientific matters was added the important responsibility of reporting on the political scene in which medicine is now involved.

The Journal deficit this year increased to \$5,741.16, an amount in excess of previous years, due to increased printing costs and a decline in revenue. Income from advertising and reprints decreased approximately \$2,500 or 50 per cent of the deficit, while publication costs increased approximately \$1,800. Had these two items not existed, the deficit would have been comparable to previous years.

In an effort to increase the revenue, the Journal changed its cover in the September 1949 issue, carrying advertising from Eli Lilly and Company. It not only adds approximately \$1,000 a year in income, but from the comments received the change has been regarded as an improvement in the appearance of the Journal.

The revenue from advertising depends in the main upon the Cooperative Medical Advertising Bureau conducted by the American Medical Association. In commending them for their efforts, it should be pointed out that there has been less of a drop in advertising in the state medical journals than in other trade journals and popular magazines. By patronizing those firms that advertise in the Journal and by mentioning the Journal in correspondence with medical firms, each physician can help to assure a continued and increased advertising revenue for the Journal.

The Journal continued its previous pattern of publishing the articles which were presented at the annual meeting plus special articles of interest contributed by Iowa physicians. The March issue carried the program of the annual meeting; the April issue was once again contributed by the State University of Iowa College of Medicine; the Transactions of the House of Delegates were presented in the official July issue.

The Editorial Board and the office staff wish once again to express their appreciation of the cooperation, interest and support of the Journal by the physicians of Iowa in 1949.

	1947	1948	1949
Reading Pages	572	560	594
Advertising Pages	512	440	402
Percentage of Reading Pages..	52.8%	56%	59.6%
Original Articles	77	77	72
Editorials	56	53	59
Total Journal Expenditure ...	\$20,625.68	\$22,598.32	\$22,144.94
Total Journal Income.....	\$20,877.31	\$18,998.91	\$16,393.78
Net Profit for Journal	\$ 251.63	.....	.....
Net Expenditure for Journal...	\$ 3,699.41	\$ 5,751.16	.....
Number State Society Members.	2,377	2,424	2,482
Net Expenditure per Member..	.....	\$ 1.526	\$ 2.313

Everett M. George, Editor

Reports of Special Committees

REPORT OF THE CANCER COMMITTEE

The Cancer Committee of the Iowa State Medical Society has held no meetings and has had no problems referred to it during the current year.

The subcommittee on revision of the Iowa Cancer Manual reports that sales of the second edition of the Cancer Manual have continued. There are still a considerable number of outstanding accounts. Profits from the sale of manuals up to and includ-

ing December 31, 1949 have been \$665.42. This profit has been used as follows:

- (a) \$227.54 to retire the loan to the subcommittee and to reimburse it for \$15.63 expended prior to April 1949.
- (b) \$442.25 has been forwarded to the Iowa State Medical Society.

Fred H. Beaumont, Chairman

REPORT OF THE FRACTURE COMMITTEE

It is the plan of the Fracture Committee to have, during March and probably in June and July, a series of five meetings throughout the state. The locations of these meetings shall be Cedar Rapids to take care of the eastern part of the state; Mason City, the northeast and central; Des Moines, the central; Sioux City, the northwest and Council Bluffs, the southwest.

It is our tentative plan to have a one day program, consisting of three speakers, the speakers to be from within the state, and in addition one speaker from an insurance company to speak on the compensation phase of fractures and industrial injuries. It is our plan to have these allowed as credit to the general practitioner on his postgraduate work toward his certification for the Academy of General Practice. All these locations are well within driving distance of any man so that he can return home the same evening.

Frank G. Ober, Chairman

REPORT OF THE COMMITTEE ON GENERAL PRACTICE

The Committee on General Practice has been rather active. We met last September with the Dean's Committee from the University College of Medicine and the exchange of ideas was very stimulating to all of us. Another meeting was held in November at which time our committee outlined a program which has been presented to the Governor, the President of the University and the Dean's Committee. We feel it is the function of the University College of Medicine to provide adequate medical personnel to take care of the needs of the people of Iowa. We also feel that the larger percentage of physicians graduated should be well qualified to do general practice. We are continuing to work for this in 1950.

Charles A. Nicoll, Chairman

REPORT OF THE HISTORICAL COMMITTEE

The activities of this committee during the past year have been devoted to the publication of the Centennial volume of the Iowa State Medical Society, commemorating the 100th year of its organization. This copy is published in accordance with the action of the House of Delegates at its session in Des Moines, April 18-21, 1949, and will be ready for

distribution at the annual meeting to be held in Burlington, April 23-26, 1950.

Respectfully submitted,

The Committee:
Walter L. Bierring, Chairman
Everett M. George
John T. McClintock
L. C. Kern
Charles L. Jones
Clyde A. Henry
Jeanette Dean Throckmorton
C. A. Boice

REPORT OF THE COMMITTEE ON INDUSTRIAL HEALTH

This report on the activities of the Committee on Industrial Health is necessarily brief. The one and only meeting that this committee has had was held September 15, 1949. Solar Aircraft Company of Des Moines served as host. Those members attending enjoyed a luncheon and plant tour. Following this the committee held its meeting at which time Mr. Charles Campbell, Industrial Hygienist of the State Department of Health, guest speaker, spoke on "The Aims of the Industrial Hygiene Program of the State of Iowa."

The committee considered six projects.

Project No. 1—The compilation of a guide for small-plant managers, nurses in industry and physicians in industry, patterned after the booklet, "Industrial Health" prepared by the Industrial Health Committee of the State Medical Society of Wisconsin, in cooperation with the Industrial Hygiene Unit of the State Board of Health of Wisconsin.

Project No. 2—Consideration was given to the development of a Health and Safety Act or Factory Code since the state of Iowa has none.

Project No. 3—Industrial Health Institutes. It is felt that these should be resumed. No action taken.

Project No. 4—Desirability of the establishment of a Section on Occupational Medicine of the Iowa State Medical Society.

Project No. 5—The development of a uniform Industrial Fee Schedule was discussed.

Project No. 6—The incorporation of a page on Occupational Medicine to be published in the Journal of the Iowa State Medical Society was discussed.

Summary—All of these projects were freely discussed and favorably regarded but no action ensued due to lack of time, etc. The committee feels that there is a very definite need for higher standards of industrial health in the state of Iowa, but it realizes too that much coordinated thinking and work are required to achieve these goals.

Howard H. Smead, Chairman

REPORT OF THE COMMITTEE ON MATERNAL AND CHILD HEALTH

No business was referred to the committee during the year, therefore no committee meetings were held.

The Department of Obstetrics at the University of Iowa, the Iowa Pediatric and the Iowa Obstetrical

Societies were contacted during the year, with an offer of our cooperation in any projects in which we might be of help to them.

No activities were initiated by the committee because it felt that until the new director of this division in the State Department of Health arrives, becomes acclimated and outlines her policies and the activities that the department would engage in, there was too much probability of duplication of effort.

It is suggested that closer integration of this committee with the above organizations will result in greater accomplishment in the fields in which we are mutually interested.

R. M. Collins, Chairman

REPORT OF THE COMMITTEE ON NATIONAL EMERGENCY MEDICAL SERVICE

Early in the year the Committee on National Emergency Medical Service was asked by the Secretary of Defense, Mr. Louis Johnson, to complete a list of all physicians in the state who were former ASTP or V-12 students or men who were deferred to complete their educations and who have not served as commissioned officers in one of the armed forces. This survey was made and the report sent to the Secretary of Defense.

There were no other activities of the committee during the year.

L. A. Coffin, Chairman

REPORT OF THE SPEAKERS BUREAU COMMITTEE

The Speakers Bureau has had a very active and useful year. It has continued the expansion of activities which started in previous years and has had the advantage of previously established methods to facilitate its work. The banality of the statement notwithstanding, this committee is entirely dependent on voluntary cooperation in every activity it attempts. It is a source of real gratification to observe the willing spirit with which doctors participate in our programs. It is sometimes very surprising to discover the fact that unusually busy men will set aside the time to talk to a handful of men in a relatively isolated community and then be willing to do it again when asked. They feel, as we do, that they are best off meeting with inquisitive men rather than duty-bound crowds. Very frequently we have had speakers from medical centers outside Iowa; they have worked with us with the same lack of hesitation as the members of our own society, stimulated entirely by the desire to teach from their funds of knowledge.

Much of our work has been made possible by the use of additional funds from special sources. The cancer clinics have been continued and enlarged, again using money supplied by the Cancer Division of the State Department of Health and the Iowa Division of the American Cancer Society. In the special clinics on diseases of the chest and heart we were assisted by the Iowa Tuberculosis and Health

Association, the Tuberculosis Division of the State Department of Health, the Heart Division of the State Department of Health and the Iowa Heart Association. It should be pointed out that the State Department of Health has ever been eager to help in any worthwhile project and has continued to assure us of its support at all times. Of course, our work would have been almost impossible without the constant help of the medical school, etc.

During 1949 cancer clinics were held in nine towns during the months of September, October and November. The town was chosen as much as possible on the basis of location with the object being to cover the state as much as possible. We did this with the assurance always that the areas involved desired such a meeting, and in each instance we had good help from local chairmen. The centers for 1949 were: Centerville, Burlington, Atlantic, Essex, Algona, Decorah, Clinton, Grinnell and Cherokee. A total of 36 lectures were given, using speakers from the entire state, from the medical school and from adjoining states. The total attendance of these clinics was 368.

The object of these meetings remains the early detection and treatment of cancer. All types of problems were considered from cancer of the stomach to use of radioactive substances in therapy. Audience reactions were uniformly favorable with alert participation generally in discussions of specific problems. There is no question of the great value in these clinics. It is a means of swiftly and accurately bringing the most recent information to those physicians who can make the best use of it.

The same can certainly be said of the meetings organized to emphasize diseases of the chest and heart. These were proposed in 1948, presented in 1949, and will likely be done again in 1950. They were held in Sioux City, Oelwein, and Des Moines. Like the cancer clinics they were set up so that a minimum of time was involved in getting a maximum amount of teaching. Four lectures were given in each city, two before dinner and two after, beginning at 4:00 p.m. so as to interfere very little with office hours for the day. Speakers were selected on the basis of both knowledge and teaching ability with happy results.

Radio talks, over stations WSUI at the University of Iowa and WOI at Iowa State College, were continued on a weekly basis, with copies of over 2,000 talks being sent on request to listeners in Minnesota, the Dakotas, Missouri and Illinois as well as Iowa. These were on subjects of daily interest to the laymen, most of them given by newer members of the State Medical Society. It should be mentioned here, despite the early stage of activity, that we hope to have a regular television program in 1950. WOI is now equipped to do some television transmissions and has been interested in extending our regular radio program into this new field. Initially it will consist entirely of the broadcast of movie films, of which there is a fairly good supply at present, for continued education of the public on

matters of importance to their health. The great advantage of having a television station devoted to educational activities is obvious. It will be a real advance toward having an informed public if this project is as successful as we have reason to think it will be. The area of good reception for the new station will be great enough to include a large percentage of the population of Iowa.

Postgraduate courses were given in 1949 in Fort Dodge, Le Mars, Red Oak, Algona and Ottumwa. These were usually set up so that five lectures were given at one week intervals, on unrelated subjects, at a time chosen by the local group. Speakers were chosen on the same basis as for other lecture programs, and with good success. These will be continued as the need for them is expressed. We have furnished county medical society groups with speakers on 15 occasions, and arranged for speakers for the August 4 meeting of the Upper Des Moines Valley Medical Society.

Thirty-five speakers were obtained for talks before lay groups of all kinds—business men's clubs, church groups, women's clubs, and others. These were in many instances for the discussion of socialized medicine which has been a subject of top interest for all of us during the past year. It hardly requires stating that the Speakers Bureau will continue to work actively for the correct understanding of all questions involved in this controversy.

The committee is happy to present the financial report of the Speakers Bureau for 1949.

ACCOUNT FOR 1949 INCOME

Receipts from Postgraduate Medical Courses	
Carroll County Medical Society	\$ 309.68
Webster County Medical Society	450.00
Plymouth County Medical Society	249.50
*Total Speakers Bureau Income	\$1,009.18

EXPENDITURES

Salaries	\$1,980.00
Travel Expenses for Speakers.....	219.59
Postgraduate Course Travel Expenses	637.31
County Society Services	193.64
Radio	299.37
Stationery, Printing, Telephone, Postage, etc.	685.91
Total Speakers Bureau Expenditures..	\$4,015.82
Deficit for 1949	\$3,006.64
Funds received from Iowa State Medical Society to Offset Deficit	\$3,006.64

*In 1950, \$191.53 was received from Montgomery County and \$172.35 from Kossuth County to offset postgraduate course expenses. Credited against the deficit of \$3,006.64 it makes the final deficit \$2,642.76. Funds will also be received from Wapello County at the conclusion of its postgraduate course.

In thanking those who have contributed their time and energy so generously to our activities, we must

also express a plea that continued cooperation will be found in 1950 and in years following.

Harold Margulies, Chairman
James H. Allen
Charlotte Fisk
Horace M. Kornis
Robert N. Larimer
John I. Marker
Frank R. Peterson

REPORT OF THE TREASURER

The report of the treasurer for the year 1949 is presented herewith. Since the Board of Trustees has presented a comprehensive breakdown of the Society finances to a special meeting of the House of Delegates, I will give only a financial statement without further explanations.

INCOME

Annual session	\$ 5,133.00
Dues	32,665.00
Interest on bonds	1,220.00
Interest on savings	33.19
Journal	
Advertising	\$15,320.75
Reprints	1,073.03
Repayment of loan by Iowa Medical Service	10,000.00
Speakers Bureau	1,009.18
Taxes	622.52
Miscellaneous	1,490.59
American Medical Association assess- ment collected	28,492.50
TOTAL INCOME	\$ 96,437.24

EXPENDITURES

Administrative miscellaneous	2,740.91
Annual session	5,101.41
Council	323.71
County society services	144.94
General salaries	9,831.11
Journal	
Salaries	\$ 3,385.35
Printing and engraving	17,795.25
Reprints	964.34
Legislative committee	22,144.94
Medical service and public relations	5,100.00
Other committees	17,248.18
Rent and office supplies	1,127.81
Speakers Bureau	
Salaries	4,261.64
Travel expense	\$1,994.85
Taxes	2,020.97
Trustees	4,015.82
Payment to American Medical Asso- ciation of assessment collected	622.52
	168.58
	28,492.50

TOTAL EXPENDITURES	\$101,324.07
NET LOSS FOR YEAR	\$ 4,886.83

Cash on hand at the first of the year in three bank accounts totalled \$3,319.68, and bonds held totalled \$49,500. This made a total reserve of

\$52,819.68. Subtracting the net loss for 1949 of \$4,886.83, this leaves a reserve of \$47,932.85. This was comprised of the following items:

Secretary's account,	
Central National Bank	\$ 314.29
Treasurer's account,	
Bankers Trust Co. Overdraft	—5,512.14
Savings Account,	
Bankers Trust Co.	3,630.70
United States Savings Bonds, Series G....	27,500.00
Treasury Bonds	19,000.00
United States Savings Bonds, Series D....	3,000.00
TOTAL CASH AND BONDS	\$47,932.85
N. Boyd Anderson, Treasurer	

REPORT OF THE TUBERCULOSIS COMMITTEE

Last year the Tuberculosis Committee of the Iowa State Medical Society and the Iowa Heart Association combined their efforts in presenting three institutes on diseases of the heart, circulation and the chest. These institutes were held in Des Moines, Sioux City and Oelwein. It was the opinion of the committee members that this type of educational program was very well received and very well attended, and it is our hope that a similar plan can be followed in the future.

The Program Chairman of the State Meeting of the Iowa State Medical Society was again asked to include a guest speaker to present a topic on some phase of diseases of the chest at the annual meeting of the Iowa State Medical Society and this policy will also be followed in the future.

Ray J. Harrington, Chairman
John C. Parsons
J. Carl Painter
Leon J. Galinsky
R. E. Smiley
Wm. Spear
D. R. Webb

The Speaker: Has the secretary a supplemental report?

The Secretary: Mr. Speaker, I *move* that the president-elect be empowered to appoint reference committees as he deems necessary.

[The motion was severally seconded, put to a vote, and carried unanimously.]

The Secretary: Gentlemen, I have several announcements to make. First, Dr. Jepson's cup contains the names of the past 100 presidents. It will stay here for today. Tomorrow it will go to the desk where the Committee for the Centennial volume will have it on display. Dr. Bierring will have charge of it. The Committee will autograph your books for the Centennial volume. There is a small fee connected with that, and we would like to have you buy the autograph. The Committee also will take orders for additional copies of the Centennial volume.

There will be a pre-convention board meeting of Iowa Medical Service Monday at 8:00 a.m. in the

Coffee Shop of this hotel. Also, there will be a meeting of Iowa Medical Service at 4:30 p.m. Monday, immediately following the general session in the Auditorium. Will as many as possible stay, please.

There will be a meeting of the legislative contact men from each county on Tuesday at 4:30 p.m., immediately following the general session in the Auditorium, in that same room.

It is necessary that we know as soon as possible how many will attend the banquet on Tuesday evening. Please buy your tickets tomorrow morning when you register. There will be a fine dinner and you will have a good time.

This last announcement is a reminder that each councilor district should have the names of three men, one of whom will be chosen by the president, for nominees on the Grievance Committee. This is done in the hope that the Grievance Committee can be activated following this annual session. Thank you.

Dr. E. L. Rohlf: I think the secretary forgot one item. All year we have been going to meetings and at every meeting we hear the same thing, that the Council is not active. The trustees say they have to do all the work. As long as you are going to have councilor district meetings, I think every district should name someone as councilor who will be "on the ball" and attend the necessary business meetings. Dr. Alcock brought out last year (and you brought it out again today) the fact that you want to activate the Council.

The Speaker: Thank you, Dr. Rohlf. The secretary is very glad you brought that up. You have just voted that the Speaker appoint some reference committees. As you know, we are going to hear a revision of the Constitution and By-laws at this meeting, and as the revisions are being read I would like to ask every member to write down any questions he might want to ask.

I am going to appoint a Reference Committee on Constitution and By-laws now. As you know, we have a lot of work to do, and if we bring this report before the House without having had a reference committee report on it, we never will get finished. I shall appoint Dr. Caughlan of Council Bluffs as chairman, and Dr. Bernard and Dr. Albright as members of the Reference Committee on Constitution and By-laws.

Any member of this House who has any questions to ask, any objections to offer to any of the wording, or anything he questions, should meet with this committee. It will hold several meetings, and then they will report back to this House for your action.

The Reference Committee on Reports of Officers and Trustees will consist of Dr. Kersten, chairman, Dr. Wolfe and Dr. Braunlich.

The Reference Committee on Medical Education and Hospitals will consist of Dr. Farnsworth, chairman, Dr. Sayre and Dr. D. F. Ward.

If there are any other reference committees to be appointed, I shall do so later.

May we have the supplemental report of the treasurer, please.

The Secretary: There is none, Mr. Speaker.

The Speaker: Does the Board of Trustees have a supplemental report?

Dr. W. A. Sternberg: Mr. Speaker, it was not my privilege to be at the meeting in Des Moines in January, but I think the House of Delegates did some wonderful things and made outstanding advances. At that time the Board of Trustees, as represented by Dr. Whitaker and Dr. Larimer, presented our report. They explained it to you in detail. To that we wish to add this supplemental report, with the understanding that the Board of Trustees considers the House of Delegates as the Iowa State Medical Society. You elect its officers; you should conduct its business and accept responsibility for its policies and actions from year to year.

SUPPLEMENTAL REPORT OF THE BOARD OF TRUSTEES

It has recently come to the attention of the Board of Trustees that the Iowa Heart Association is considering establishing clinics for the diagnosis and treatment of heart conditions. To aid in the program the State Department of Health has said it can provide \$10,000 and a truck with x-ray. The Iowa Heart Association in Iowa is connected with the Iowa Tuberculosis and Health Association, the two organizations conducting a joint fund-raising campaign.

In the past programs of this type conducted by lay organizations have been limited to diagnosis and generally have been for indigent or semi-indigent persons, with the treatment part being left to the private practice of medicine. There seems to be a growing tendency, however, on the part of many organizations to encroach more and more on the treatment side and the Board of Trustees feels that this House of Delegates should pause and take stock of the situation. The State Department of Health has federal funds available for various programs in the state and has been more or less active in formulating such programs. The understanding has been that the approval of the county medical society would always be sought before the Department enters a county, but this has not been adhered to as strictly as is advisable.

Because the proposal of the Iowa Heart Association has brought this whole matter to a head, the Board of Trustees recommends that this House of Delegates seriously consider the importance of reappraising the medical programs of all other state organizations and departments and of lay groups who would promote any sort of health activity which would call for active participation by members of the medical profession, and especially those activities which would encroach on the normal practice of medicine. To that end we offer the following resolution:

"Resolved, That the objectives and functions of any organization concerned with the health of the

citizens of this state which requests cooperation of the members of this Society shall be studied carefully by the Council; be it further

"Resolved, That the results of these studies shall be made available to the membership."

Second, in its report, the Board of Trustees wishes to bring before the House of Delegates some of the projects which it has in mind for the future. As was shown in the financial statement presented in January, the JOURNAL has been costing the Society more than its income. The trustees, meeting with the secretary and editor as the Publication Committee, are considering possible ways in which to cut the cost of printing the JOURNAL and to make it more valuable to the physicians of Iowa. Already a larger editorial board has been appointed and has met with Dr. George, editor, to discuss methods for improving the JOURNAL.

Another project which the trustees have been considering is that of establishing some sort of pension plan for the lay employees of the Society. The cost of this will not be light, but it is considered a step which should be taken. Experience in other firms has shown that it provides a greater feeling of security for the employees and so makes for greater tenure of service.

One of the great needs of the Society is for larger office space. We have been fortunate enough to secure a room on the seventh floor of the Bankers Trust Building for our field secretaries, but this is not ideal in that they are separated from the main organization. The trustees will endeavor to obtain sufficient office space to take care of all the personnel as soon as possible.

At the special meeting of the House in January the Trustees were authorized to employ a physician to serve as coordinator for the Society. We are happy to report that we have been able to do this, and that Dr. R. D. Bernard of Clarion will report to the central office June 1. We are investing Dr. Bernard with the title of *general manager*, and his duties will be those customarily expected of such a title. He will have general supervision over all personnel and activities of the Society, reporting directly to the trustees each month. This will keep the Board well informed on all phases of Society work. In addition he will be a member ex-officio of each committee and so will be able to advise and counsel with each and to dovetail its work into that being done by another. We also expect him to keep his Washington and other contacts for the State Society and in addition to train younger physicians in this part of Society work.

We expect him to give the time necessary to indoctrinate as many young physicians as possible with various phases of Society activity. We feel that the door to his office should be open to any physician or county society seeking advice or counsel.

We feel, further, it will be a great advantage to have Dr. Bernard available to speak for the physicians of Iowa when approached by lay organizations.

It is entirely probable that through him it will be much easier to work with the State Department of Health in outlining its programs and to counsel with other lay organizations in this same manner. He can serve as contact man between the various organizations and the appropriate committees or councils of the State Society.

Dr. Bernard will not replace any officer of the Society nor any of the office personnel. Rather he will fill a newly created office, the purpose of which is to correlate and bring more efficiency into our many growing activities.

The trustees strongly urge the House of Delegates to consider seriously the matter of a more active Council. This group represents the democratic spirit of our organization, and in times such as these the State Society would be tremendously benefitted by strong statements of policy emanating from the Council. Many questions arise during the year on which the trustees would like to have the advice of the Council. Eleven active councilors and 99 active deputies could accomplish much of the public relations work required today and eliminate the necessity of hiring others to do it for us.

This field of public relations brings up another matter and that is of putting our own house in order. A few men by overcharging and indulging in poor public relations can offset all the work the majority is doing. We refer you to the report of the Medico-legal Committee in the Handbook for a few simple rules on what should and should not be done to maintain friendly relations with our patients. Establishment of the Grievance Committee, which is being considered at this session, will, we feel, be a tremendous step forward in good public relations.

The very fact that Truman's health program has been delayed shows what public opinion can do. We have been able to rally public support to our side and convince the Washington Legislators that government medicine is not a good thing. By the same token we face a larger challenge than ever to keep that public opinion back of us and to prove we are worthy of the confidence bestowed in us. Iowa has been in the vanguard in supporting the AMA program both financially and by individual effort. Let's not dissipate our energies but rather channel them all in one concerted drive directed by the American Medical Association.

In closing, we wish to state our conviction that the State Society is entering its second 100 years with many problems confronting it but with a far better organization to meet them than we have had in the past. Members of the office staff are carrying on efficiently in their respective spheres and with the addition of Dr. Bernard to take care of the areas heretofore inadequately served, we are looking forward to being able to do a better job for our members and so for the people of Iowa.

W. A. Sternberg, Chairman
B. T. Whitaker
R. N. Larimer

Dr. Sternberg [continuing]: Again I wish to call your attention to this resolution. Before I read it

again the Board of Trustees wants you all to take this report seriously and discuss it fully. You decide the policies of this Society. It is your Society, not ours; we are just your servants. You have elected us to these offices. We bring this before you for your consideration and discussion. Again I want to read this resolution so that you will know just what is going on:

"Because the proposal of the Iowa Heart Association has brought this whole matter to a head, the Board of Trustees recommends that this House of Delegates seriously consider the importance of re-appraising the medical programs of all other state organizations and departments and of lay groups who would promote any sort of health activity which would call for active participation by members of the medical profession, and especially those activities which would encroach on the normal practice of medicine. To that end we offer the following resolution:

"*Resolved*, That the objectives and functions of any organization concerned with the health of the citizens of this State which requests cooperation of the members of this Society shall be studied carefully by the Council; be it further

"*Resolved*, That the results of these studies shall be made available to the membership."

Mr. Speaker, I *move* the acceptance of this report.

The Speaker: This report will be referred to the Reference Committee on Reports of Officers. The time and place of meeting of this Reference Committee will be announced. Every member of this House who has anything to say on this subject is urged to meet with that Committee and to make any criticisms or offer any suggestions he may have.

Is there a supplemental report from the councilors? There is no further report.

Have the delegates to the American Medical Association a supplemental report? They say no.

Reports of standing committees of the House of Delegates: Constitution and By-laws. Dr. Albright. Gentlemen, this is important. Please follow what Dr. Albright is reading, section by section, so that if you have any questions to bring up before the Reference Committee on this report you will be able to tell them just what you want. This report is to be referred to the Reference Committee on Constitution and By-laws.

Dr. George C. Albright: The report which we wish to submit to you naturally falls into three divisions both as regards Constitution and as regards By-laws. Each of you has a copy. The first column represents the old Constitution and By-laws and the parallel columns represent revisions as the Committee has worked them out.

First, as regards the Constitution, we have here three separate features to consider. First are the amendments which already have been proposed, either in 1948 or 1949. These are to be voted upon at this session in 1950. These apply to Articles V, VII and VIII of the Constitution. They will be taken up in order.

The second division concerns those amendments to the Constitution which have not been proposed. At the last meeting of the House of Delegates changes were made in the By-laws which called for corresponding changes in the Constitution. They apply to Article VIII, Section 4, the manner of filling the office of president-elect, and Article IX providing for a separate resolution for the spending of funds.

Third, there are new amendments which can be presented only at this session and must be voted upon in 1951. These changes involve Articles II, III, IV, VI and X. Many of these changes are in wording or phraseology only and do not affect the content.

The Constitution has been revised 25 times in the past 25 years, piecemeal. The Committee has felt that a thoroughgoing revision of it might be worth while at this time. If you wish to understand what I mean by that specifically, look at Article II of the Constitution as given. In the old Constitution that entire Article is made up of one sentence. We tried to change it a little bit.

Coming now to the amendments already proposed, which have to be voted upon at this meeting, we will take them up in detail as we go along. There is no use in repeating them now.

Article V, I might say, has to do with the limitation of the duties of the Executive Council, which we will take up a little later. It provides also for the election of the president-elect in case of vacancy.

Article VII has some changes made in Section 2 thereof, which we will take up a little later.

Article VIII, Section 1, is amended to provide for a speaker and vice speaker. I have been told today (and it will be presented as an amendment later) that it also should provide for alternate councilors.

The only change in Section 2 is (a) that Councilors be elected for three years with classes of four and three years each for the different years each, and (b) limiting these councilors or any councilor to three successive terms.

There is no change in Section 3. A new Section 4 is added to provide for the position of president-elect in case of vacancy.

Changes in the By-laws were made which seem to call for a change in the affected Article in the Constitution. The first of these is Article VIII, Section 4, of the Constitution, providing a new method for electing the president-elect in case of vacancy.

In Article IX a sentence is added providing for appropriation of funds. Both of these were authorized by changes in the By-laws.

If the Chair rules that these changes in By-laws last year make necessary a change in the Constitution, and if he rules also that the presentation of these changes in the By-laws last year constitutes a presentation of an amendment to the Constitution, these also can be voted upon this year; otherwise we will have to wait until 1951.

We come now to the specific amendments, and you now may begin to follow your copy.

ARTICLE I

No change.

ARTICLE II

The purpose of this Society shall be (a) to bring into compact organization the entire medical profession of the state of Iowa, (b) to unite with similar organizations in other states to form the American Medical Association, (c) to extend and advance medical science, (d) to elevate the standard of medical education, (e) to aid in the enactment and enforcement of just medical laws, (f) to promote friendly intercourse among physicians and to guard and foster their material interest, and (g) to enlighten the public and direct public opinion in regard to the great problems of state medicine. These purposes are to the end that the profession shall become more capable and honorable within itself and more useful to the public by preventing and curing disease, thereby prolonging and adding comfort to life.

ARTICLE III

Section 1. This Society shall consist of physicians who are members of the component medical societies who have been certified to the headquarters of this Society, and whose dues and assessments for the current year have been received by the Secretary and Treasurer of the State Society.

Section 2. Life Members—Any member of the Society may be elected to life membership in the State Society by the House of Delegates who has (a) been practicing medicine for fifty years and has been a member of the Society for thirty years, or (b) who is incapacitated to such an extent that the payment of dues would work a hardship upon him, providing his county medical society votes to present his name for such life membership in the State Society. A two-thirds vote of those present shall be necessary for the conferring of life membership.

Life members shall be accorded all the privileges of active members but shall be exempt from the payment of dues.

ARTICLE IV

Component societies shall be those county medical societies which hold charters from the Iowa State Medical Society.

ARTICLE V

Section 1. The House of Delegates shall be the legislative and business body of the Society. It shall consist of (a) delegates elected by the component county societies, and (b) ex-officio, the officers of the Society as defined in this Constitution.

Section 2. The Executive Council of the Iowa State Medical Society shall have full authority and power belonging to the House of Delegates in the interim between duly authorized sessions of the House of Delegates except the authority and power to fill a vacancy in the office of President-Elect, as provided in Article VIII, Section 2, of this Constitution.

The Executive Council shall consist of the Councilors, the Board of Trustees, the three delegates to

the American Medical Association, the President, the President-Elect, the Secretary and the Treasurer of the Society. Fourteen members of the Executive Council shall constitute a quorum.

ARTICLE VI

The House of Delegates may provide for a division of the scientific work of the Society into appropriate sections for the annual sessions of the Society. It may also provide for the organization of such councilor district societies as will promote the best interests of the profession. Such societies are to be composed exclusively of members of the component county societies.

ARTICLE VII

Section 1. (No change)

Section 2. The place for holding each Annual Session shall be fixed by the House of Delegates. Authority for setting the time of the meeting may be delegated to the Committee on Arrangements.

ARTICLE VIII

Section 1. The officers of this Society shall be a President, two Vice-Presidents, a President-Elect, a Speaker and a Vice-Speaker, a Secretary, a Treasurer, eleven Councilors and three Trustees.

Section 2. The President-Elect, the Vice-Presidents, the Speaker, and the Vice-Speaker shall be elected for a term of one year, the Secretary and Treasurer for three years, and the Councilors for three years—the Councilors being divided into classes so that four shall be elected each year except in every third year, when only three shall be elected. No Councilor shall serve for more than three successive terms. The Trustees shall be elected for three years, one each year. All these officers shall serve until their successors are elected and installed. The President-Elect shall enter upon the duties of the Presidency on the last day of the annual session succeeding that in which he is elected.

Section 3. (No change)

Section 4. Should a vacancy occur in the office of President-Elect by reason of death or total incapacity of the incumbent, or for any other reason, the House of Delegates shall be called into session within fifteen days to name a President-Elect.

ARTICLE IX

Funds for meeting the expenses of the Society shall be arranged for by the House of Delegates by an equal per capita assessment upon each county society to be fixed by the House of Delegates, by voluntary contributions, and from the profits of its publications. Funds may be appropriated by the House of Delegates to defray the expenses of the Annual Sessions, for publication, and for such other purposes as will promote the welfare of the Society and profession. Any proposal to appropriate funds other than for the usual running expenses of the Society and JOURNAL shall be presented in a separate resolution.

ARTICLE X

At any general meeting of the Society may, by a two-thirds vote, order a general referendum upon any question pending before or passed by the House of Delegates. The House of Delegates may, by a two-thirds vote of its own members, submit any question before it to the membership of the Society for a final vote. A majority of the members voting shall decide the question, and that decision shall be binding upon the House of Delegates.

ARTICLE XI

(No change)

ARTICLE XII

(No change)

By-Laws

NEW

CHAPTER I

Membership

Section 1. This Society shall consist of members, and life members.

a. Members—The members of this Society shall be the members of the component medical societies. Members in good standing shall be those members whose annual county and state dues have been paid.

b. Life members—as defined in Article IV, Section 2, of the Constitution.

Section 2. All members of the component county societies shall be privileged to attend all meetings and take part in all of the proceedings of the Annual Sessions. The right to vote in the meetings of the House of Delegates shall be restricted to the members of that House. Any member shall be eligible to any office within the gift of the Society, providing such member is a citizen of the United States and has been a member of this Society in good standing for five years preceding his election to office.

Section 3. The name of a physician upon the properly certified roster of members of a chartered county society which has paid its annual assessments, or an individual receipt held by any member for dues for the current year from the Secretary or Treasurer of the county society to which he belongs, shall be prima facie evidence of his right to register at the Annual Session.

Section 4. No person who is under sentence of suspension or expulsion from any component county society of this Society, or whose name has been dropped from its role of members, shall be entitled to any of the rights or benefits of this Society. He shall not be permitted to take part in any of its proceedings until such time as he has been relieved of such disability.

Any person practicing the methods of any cult, or who is professionally associated with any person practicing the methods of any cult, not recognized by, or taught in, standardized medical colleges—who refuses to discard such methods of practice or such association—shall be expelled from membership in

the Society. The evidence against any such member must have been presented to, reviewed and substantiated by, the Executive Council before the expulsion of any such member.

Section 5. (No change)

Section 6. For the purpose of medical defense a member shall be regarded as in good standing only when his dues have been received by the Secretary of the State Society. No member under suspension or expulsion shall be eligible to the benefits of the medico-legal fund for any alleged wrongful act committed while under suspension or expulsion. Should a member in good standing move to another state, such member shall not be entitled to medico-legal defense for any professional act arising after his removal from this state.

Section 7. (No change)

CHAPTER II

Annual and Special Sessions of the Society

Section 1. The Society shall hold an Annual Session at such time as has been arranged by the Committee on Arrangements and at such place as has been fixed at the preceding Annual Session by the House of Delegates.

Section 2. (No change)

Section 3. (No change)

CHAPTER III

General Meetings

Section 1. The general meetings shall be open to all registered members, delegates, and guests. All shall have equal rights to participate in the proceedings. Only registered members may vote on pending questions. Each general meeting shall be presided over by the President. In his absence or disability, or by his request, one of the Vice-Presidents shall perform the duties of the President. Before the general meeting, at such time and place as may have been arranged, the annual address of the President, the President-Elect and other annual orations as shall have been arranged, shall be delivered. The entire time of the session, so far as may be, shall be devoted to papers and discussions relating to scientific medicine.

Section 2. The general meeting shall have authority to create committees or commissions for scientific investigations of special interest and importance to the profession and public. It shall receive and dispose of the reports of such committees or commissions. Any expense in connection therewith must first be approved by the Board of Trustees.

Section 3. (No change)

Section 4. (No change)

CHAPTER IV

House of Delegates

Section 1. The House of Delegates shall meet annually at the time and place of the Annual Session of the Society. It shall so fix its hours of meeting as not to conflict with the first general meeting of

the Society, or with the meeting held for the address of the President, President-Elect and annual orations. Delegates shall be given an opportunity to attend the scientific proceedings and discussions so far as it is consistent with their duties. If the business interests of the Society and the profession require, it may meet in advance of the first meeting of the Society or remain in session after the final adjournment of the Society. It may be called into session by the President at any time.

Section 2. Each component county society shall be entitled to send to the House of Delegates each year, one delegate for every fifty members, and one for each major fraction thereof. Each county society holding a charter from the Society, which has made its annual report and paid its assessment as provided in this Constitution and By-laws, shall be entitled to at least one delegate. In case any delegate, after being seated, is unable to attend any later meetings of the House of Delegates, the alternate to such delegate shall be entitled to be seated for the remainder of the meetings.

Section 3. A majority of the registered delegates and officers shall constitute a quorum. All meetings of the House of Delegates shall be open to members of the Society.

Section 4. It shall through its officers, advisory, and councilors, consider and advise regarding the material interests of the profession. It shall also consider and advise the public in those important matters wherein the public is dependent upon the profession. It shall use its influence to secure and enforce all proper medical and public health legislation and to diffuse popular information in relation thereto.

Section 5. It shall make careful inquiry into the condition of the profession of each county in the state. It shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist, or for organizing the profession in counties where societies do not exist. It shall systematically endeavor to promote friendly intercourse between physicians of the same locality and shall continue these efforts until every reputable physician in every county of the state has been brought under medical society influence.

Section 6. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body in such a manner that one-half of that number, as near as may be, shall be elected each year. The term of office of these delegates and alternates shall start January 1 following their election.

Section 7. (No change)

Section 8. (No change)

Section 9. (No change)

Section 10. (No change)

Section 11. (No change)

CHAPTER V

Election of Officers

(No change)

CHAPTER VI

Duties of Officers

Section 1. President: The President shall preside at all meetings of the Society. He shall appoint all committees not otherwise provided for; shall deliver an annual address at such time as may be arranged; shall give a deciding vote in case of a tie; and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the state during his term of office, and as far as practicable shall visit, by appointment, the various sections of the state and assist the councilors in building up the county societies and in making their work more practical and useful.

Section 2. (No change)

Section 3. (No change)

Section 4. (No change)

Section 5. Trustees: The Trustees, at their first meeting after the Annual Session of the House of Delegates, shall organize by electing a chairman. The Board of Trustees, the Secretary of the Society and the chairman and secretary of the Council shall constitute the Committee on Publication. The duties of this Committee are set forth in Chapter IX, Section 4, of the By-Laws. The Board of Trustees may appoint, together with the Secretary of the Society, an executive secretary of the Society. It shall, upon recommendation of the Committee on Publication, appoint an editor of the Journal of the Iowa State Medical Society. The position of executive secretary and editor of the Journal may be held by one and the same person. The Board of Trustees shall also appoint such assistants as may be necessary and shall determine their salaries and the terms and conditions of their employment.

All resolutions or recommendations of the House of Delegates pertaining to the expenditure of money must be approved by the Board of Trustees before the same shall become effective. Any proposal to appropriate funds other than for the usual running expenses of the Society and Journal shall be presented in a separate resolution. The Board of Trustees shall have the accounts of the Treasurer and of the Journal office audited annually or oftener, if deemed necessary, and shall make an annual report to the House of Delegates.

Should a vacancy occur on account of death or otherwise among the general officers (except the President-Elect), delegates to the American Medical Association, standing or special committees of the Society, the Board of Trustees may fill such vacancy until the next Annual Session of the House. Should a vacancy occur in the office of President-Elect by reason of death or total incapacity of the

incumbent, or for any other reason, the House of Delegates shall be called into Session within fifteen days to name a President-Elect.

The Board of Trustees shall fix the salary of the Secretary and of the Treasurer. A regular meeting of the Board shall be held immediately after the Annual Session of the House of Delegates, and monthly thereafter during at least nine of the calendar months. Special meetings of the Board may be called at any time by the chairman, or by two members of the Board. Two members of the Board shall constitute a quorum.

Section 6. Speaker: The Speaker shall preside at all meetings of the House of Delegates.

Section 7. Vice-Speaker: The Vice-Speaker, in the absence of the Speaker or if called upon to do so, shall perform all the duties of the Speaker.

CHAPTER VII

Duties of the Council

Section 1. The Council shall hold at least one meeting for organization purposes during the Annual Session of the Society. It shall elect a chairman to preside at, and a Secretary to keep a permanent record of, the proceedings of all meetings of the Council. The chairman and the secretary of the Council, together with the Board of Trustees, shall provide for and superintend the publication of the Journal of the Iowa State Medical Society. It shall collaborate fully in connection with all phases of this publication as set forth in Section 4 of Chapter IX. Such other meeting of the Council as may seem necessary may be held during the year. It shall, through its chairman, make an annual report to the House of Delegates at such time as may be provided.

Section 2. (No change)

CHAPTER VIII

Duties of the Executive Council

(No change)

CHAPTER IX

Committees

Section 1. (No change)

Section 2. (No change)

Section 3. (No change)

Section 4. The Committee on Publication shall consist of the Board of Trustees, the chairman and secretary of the Council, and the Secretary of the Society, as set forth in Chapter VI, Section 5, of the By-Laws. The Committee on Publication shall provide for and superintend the publication of the Journal of the Iowa State Medical Society and of all proceedings, transactions and memoirs of the Society. It shall have full discretionary power to omit from the Journal, in part or in whole, any papers or discussions that may be referred to it. This Committee shall recommend to the Board of Trustees an editor of the Journal. It shall be empowered to curtail or abstract papers and discussions. Any paper referred to it, which may not be suitable for publica-

tion in the Journal, may be returned to the author. All papers read before the Society shall be the property of the Society.

Section 5. (No change)

Section 6. (No change)

Section 7. (No change)

Section 8. (No change)

Section 9. The Committee on Constitution and By-Laws shall consist of three members. It shall be the duty of the Committee to propose such amendments to the Constitution and By-Laws as is deemed wise and judicious, and to bring before the House of Delegates such amendments as it, or other members of the Society, may care to present for consideration.

A strict interpretation of this section means that amendments to the Constitution and By-Laws can be presented to the House of Delegates only through the medium of the Committee on Constitution and By-Laws. If the House wishes to allow amendments to either Constitution or By-Laws to be presented to the House of Delegates, then this sentence should be added: Opportunity for members other than the Committee to present such amendments may be given by vote of the House of Delegates.

Section 10. (No change)

Section 11. The Committee on Medical Service and Public Relations shall consist of at least seven members. This Committee shall have referred to it all matters of medical economics, medical services, public relations with other health agencies and the public, contact with other state and sectional societies, and matters of national legislation affecting public health. It shall have a subcommittee on medical economics, a subcommittee on medical service plans, a subcommittee on public relations, a subcommittee on national legislative matters, and such other subcommittees as may from time to time be necessary.

Section 12. (No change)

Section 13. Grievance Committee (temporary). This committee has not yet been constituted nor appointed. It may be ready by the first meeting of the House of Delegates.

CHAPTER X

Assessments and Expenditures

(No change)

CHAPTER XI

Rules of Conduct

(No change)

CHAPTER XII

Rules of Order

(No change)

CHAPTER XIII

County Societies

(No change)

CHAPTER XIV

Amendments

(No change)

CHAPTER XV

The JOURNAL

(No change)

Article I: There is no change in the name of the Society.

Article II has a change in wording only and does not in any way affect the content or the intent.

Article III of the Constitution is the same in both the old and the new Constitutions. However, in the printed Constitution Article III was Article IV, and Article IV of the new is Article III of the old. The two are merely transposed. We feel that the new arrangement is better, since the purpose of the Society, as set forth in the new Article III, would naturally follow Article II.

The last part of new Article III sets forth the privilege of life members, which is not provided for anywhere else in the Constitution or the By-laws.

The new Article IV was the old Article III, and a vote will be necessary to transpose the two.

Mr. Speaker, do you want to vote on the acceptance of these Articles as we go along, or wait until we are all through?

The Speaker: Whatever you wish. I will refer them to your Committee until you report back.

Dr. Albright: I see no reason why we should not vote on Articles I, II, III and IV.

The Speaker: Does anyone wish to vote on them?

Dr. E. B. Howell: I *move* we vote to accept them.

Dr. E. B. Bush: I *second* the motion.

[*The motion was put to a vote and carried unanimously.*]

Dr. Albright: Article V, Section 1: The numbers within this Section are changed to "a" and "b" simply to avoid confusion.

Section 2: The amendment incorporated in Section 2 at the close of the first paragraph "a" provides for the election of the president-elect in case of vacancy, which we are able to vote upon at this session, and "b" enlarges the Executive Council by the addition of the three delegates to the American Medical Association. This amendment was presented in 1949 and also may be voted upon at this time.

Dr. Boice: Mr. Speaker, I *move* that the changes in Article V in the Constitution *be adopted* as read.

Dr. J. W. Dulin: I *second* the motion.

[*The motion was put to a vote and carried unanimously.*]

Dr. Albright: Article VI is a change in phraseology only and does not affect the intent nor content of the Article.

Article VII, Section 1, has no change.

Section 2 is the amendment proposed in 1949 and may be voted upon at this session.

Dr. Boice: Mr. Speaker, I *move* we accept the reading of Articles VI and VII.

Dr. J. A. Downing: I *second* the motion.

[*The motion was put to a vote and carried unanimously.*]

Dr. Albright: Article VIII, Section 1, adds to the list of officers a speaker and vice speaker. It has been suggested that alternate councilors also should be added to this list, but that suggestion came in too late to be included in the amendment and will have to be presented as a separate amendment at this session and voted upon at the next session.

Section 2: The only change is in the term of office for the Councilors, limiting them to three successive years.

Section 3 has no change.

The above amendments were presented in 1949 and may be voted upon at this meeting.

Article VIII, Section 4, has been referred to.

Dr. Boice: Mr. Speaker, I desire to appear before the Committee on part of this.

The Speaker: You have that privilege, sir; every member of the House has that privilege.

Dr. Albright: The changes in the By-laws which necessitate this change in the Constitution were made as above noted in Chapter IV, Section 5, paragraph 4, page 14 of your mimeographed copy.

If the Chair rules that that change is the equivalent of presenting an amendment to the Constitution, this amendment may be voted upon at this meeting.

The Speaker: I so rule.

Dr. Albright: The Chair rules that that can be voted upon. Dr. Boice wishes to appear on Article VIII.

Dr. Boice: I *move* the acceptance of the reading of these changes.

Dr. Sternberg: I *second* the motion.

[*The motion was put to a vote and carried unanimously.*]

Dr. Albright: Article IX: The only change here is in the addition of the last sentence providing for the method of appropriating funds other than for the usual running expenses.

As in Section 4, Article VIII, the change in the By-laws, Chapter VI, Section 5, paragraph 3, page 14, was made in 1949 and provides for this Constitutional change; and if the Chair rules that it constitutes the presentation of an amendment to the Constitution, it can be voted upon at this session.

The Speaker: I so rule.

Dr. Boice: Same motion. I *move* acceptance of its reading.

Dr. Downing: I *second* the motion.

Dr. R. N. Larimer: I don't believe the Board of Trustees should be limited that way. I don't want to have it accepted. Do you want an amendment to that motion?

The Speaker: No, not now.

Dr. Albright: Article X of the old Constitution reads: "At any general meeting the Society, by a

two-thirds vote, may order a general referendum upon any question pending before or passed by the House of Delegates, and the House of Delegates shall, by a similar vote of its own members, or after a like vote of a general meeting, submit any such question to the membership of the Society for a final vote. A majority of the members voting shall decide the question and be binding on the House of Delegates."

The difference is in wording, and it also calls for one other thing. Article X in the new proposal reads: "At any general meeting the Society may, by a two-thirds vote, order a referendum upon any question pending before or passed by the House of Delegates. The House of Delegates may, by a two-thirds vote of its own members, submit any question before it to the membership of the Society for a final vote. A majority of the members voting shall decide the question, and that decision shall be binding upon the House of Delegates."

The change is in the word *shall* from the word *may*.

Dr. Boice: I *move* it be accepted for reference to the Committee.

Dr. Dean Curtis: I *second* the motion.

[*The motion was put to a vote and carried unanimously.*]

Dr. Albright: We come now to the By-laws. In Chapter I, Section 1(a), the word *county* is omitted, since the Constitution provides that there may be district societies as well as county societies. Also, a member in good standing is defined.

Section 1(b) cites the Article, III instead of IV as shown in your mimeographed copy, and the Section in your Constitution applicable to life members.

Section 2: Changes are largely those of punctuation and sentence structure. The right to vote is specified. The qualifications for office are stated positively and are stated here rather than by reference to an Article in the Constitution.

Section 3, line 3, of the old By-laws . . . "or list of delegates"; those four words are omitted, since all delegates must be members. It is repetitious.

Section 4, line 12, of the old By-laws, omits the phrase "or who counsels with". A strict interpretation of that Section would impose a condition which neither the Society nor anyone else could enforce.

In Section 5, although no change is specified, in line 4 of the old the words *or delegate* well may be omitted. It is immaterial.

Section 6: This again is simply a change in sentence structure for clarification.

Section 7 has no change.

The Speaker: May we have a motion in order that this Section can be adopted?

Dr. Luce: I *move* its acceptance as read.

Dr. Howell: I *second* the motion.

[*The motion was put to a vote and carried unanimously.*]

Dr. Albright: Chapter II, Section 1: This embodies a change in the By-laws, voted at the last

meeting of the House of Delegates in 1949. This is done to conform to Article VII, Section 2, of the Constitution, which you have already approved.

Sections 2 and 3 have no change.

Dr. Downing: I *move* their acceptance.

Dr. Dulin: I *second* the motion.

[*The motion was put to a vote and carried unanimously.*]

Dr. Albright: Chapter III, Section 1, is largely a change from phrases to sentences, which makes for clarity. The duties of the vice president are more specifically defined. However, on page 8 of your mimeographed copy continuation of Section 1, third line, makes reference to the annual address of the president. As it appears in the old By-laws, the president is specifically required to give his address before the entire Society.

I am told by the executive secretary, Miss McCord, that at the skeleton meeting in 1945 it was moved, seconded and carried that the annual address of the president and the president-elect should be given before the House of Delegates. This motion was never put into an amendment to the By-laws.

Section 1 as rewritten reiterates that the addresses of the president and president-elect shall be delivered before the general meeting. It is the belief of your Committee that these addresses interest all members of the Society and therefore should be given at a meeting at which more members of the Society may be present.

In Section 2 phrases are changed to sentences, and in Sections 3 and 4 there are no changes. However, I would call attention again that in Section 4 the address of the president, guests and orators are spoken of as being delivered before the Society.

Dr. Luce: I *move* its acceptance.

Dr. Boice: I *second* the motion.

[*The motion was put to a vote and carried unanimously.*]

Dr. Albright: Chapter IV: Again this is largely a change from phrases to sentences.

Section 1, the last sentence on page 9 of your mimeographed copy, provides that the president may call the House of Delegates into session at any time. It is probable that an extra session may be called during this annual session. However, he is not permitted to call such a meeting at a time which would interfere with the general program of the Society. That is merely a comment.

Section 2 raises a problem. The Committee on Constitution and By-laws has been notified by the Pottawattamie County Medical Society of its intention to present an amendment changing the number of delegates, increasing those from the more populous counties. This, of course, will need to be discussed.

This amendment conforms to Section 9 of Chapter IX of the By-laws which states, "The Committee on Constitution and By-laws shall propose all amendments to the Constitution and By-laws." That

is, such amendments must be brought in through the Committee on Constitution and By-laws.

However, at the last session of the House of Delegates in 1949 Dr. Henry of Farson presented a bill to amend the By-laws, Chapters IV and V. The Speaker ruled that this would be held over until the next meeting of the House of Delegates, which is the present meeting. These amendments by Dr. Henry have not been presented to the Committee on Constitution and By-laws. Your chairman feels that it will be advisable for the Speaker to rule as to whether these amendments, in view of this provision of the By-laws, can be considered at this session.

The Speaker: I *rule* that they cannot be voted upon at this time.

Dr. C. A. Henry: Mr. Speaker, I did not hear your decision.

The Speaker: I *rule* that they can be presented at this session but not voted upon at this meeting.

Dr. Albright: Sections 3, 4 and 5 show changes in the By-laws only.

Section 6 shows changes in the House as made at the last meeting in 1949.

Sections 2, 3 and 4 have no changes.

Chapter V: In this Chapter no changes are made.

Chapter VI, Section 1: The president no longer presides at the meetings of the House of Delegates. Therefore, line 3 of the old By-laws, "and of the House of Delegates in the absence of the Speaker of the House," should be deleted.

Sections 2 and 3 have no change.

Section 4 in the sixth line from the close of the paragraph in the old By-laws provides that the secretary's bond shall be placed at \$5,000. Your Committee feels that with the increased responsibility upon the secretary relative to the handling of funds, the following amendment should be made: After the word "bond" in line 6, the words "in the sum of \$5,000" should be deleted, and the following inserted: "in such sum as shall be determined by the Board of Trustees."

Do you want to vote on Sections 1 through 4?

The Speaker: Are you ready to vote on Sections 1 through 4?

Dr. Boice: I *move* the acceptance of that section of the report.

Dr. Luce: I *second* it.

[*The motion was put to a vote and carried unanimously.*]

Dr. Albright: Section 5, Duties of the Trustees: Some changes are suggested. Line 4 of the old By-laws gives as one of the duties the providing for and superintending of the publication of the Iowa State Medical Journal and of all proceedings, transactions and memoirs of the Society.

Your Committee feels that the change in the personnel of the Committee on Publications, which will be taken up in Section 4, Chapter IX, of the By-laws, should be enlarged to include the chairman and secretary of the Council. That will be considered later.

In line 10 of the new By-laws, page 14, a change is made that the Board of Trustees "shall appoint upon the recommendation of the Committee on Publications" and not on its own initiative.

The other changes are only from phrases to sentences for clarity.

Paragraph 3, page 14, line 6, incorporates the amendment passed by the House of Delegates at its last meeting in 1949, providing, "Any proposal to appropriate funds other than for the usual running expenses of the Society and Journal shall be presented in a separate resolution."

Paragraph 4, page 14, of the new By-laws takes note of the manner of electing the president-elect, which is contained in the final sentence of this paragraph.

Section 6 of the old By-laws is deleted, and a new Section 6 is substituted.

A new Section 7 is added, providing for the duties of the vice speaker.

The Speaker: The Chair will rule that that will be reported to the Committee without a vote here, because I believe there is probably controversy on that. The Board of Trustees may appear before the Committee.

Dr. Albright: Chapter VII: The Committee on Constitution and By-laws was asked to take some steps to activate the Council; believing that the Council is primarily interested in the scientific aspects of the work of the Society rather than the financial and administrative aspects, it was felt by your Committee that to include the chairman and secretary of the Council on the Board of Publication of the Society would be a step in the right direction. It will give them the stimulus to partake more actively in the scientific work of the Society. Therefore, in Section 1 of Chapter VII provision is made for this activity on the part of the chairman and secretary of the Council.

Your Committee recommends that the entire Section 1 be accepted as presented in the mimeographed sheet.

Dr. Howell: I would like to speak on that before the Committee.

Dr. Albright: Section 2 has no change.

Chapter VIII: At the time the mimeographed copies were made no changes in the duties of the Executive Council were apparent. However, since the mimeographed copies were made, a report from the Committee appointed to draft provisions for a Grievance Committee has been submitted to the Chairman and, I presume, to the other members of the Committee on Constitution and By-laws.

These recommendations are so extensive and detailed that it is the belief of your Committee that Section 2, Chapter VIII, of the By-laws will need to be rewritten in such form as to take from the Executive Council the burden of hearing all of the questions involving the matters of the ethics or grievances of the members of the Society. We therefore ask that consideration of this Section be postponed

until after consideration of the numerous committees in Section 13 of Chapter IX.

The Speaker: Granted. It will be deferred.

Dr. Albright: Chapter IX, Section 1: The number of the Committee on Legislation is to be increased to seven. With the change in the duties of the Council, as suggested in Chapter VII, the Committee on Publication (Section 4 of Chapter IX) is to be increased to seven members.

The executive secretary suggests that the Committee on Finance be dropped.

No other changes are made in the list of committees set forth, and a Grievance Committee of eleven members shall be incorporated.

Sections 2 and 3 have no change.

Section 4 has been rewritten to conform to the enlarged Committee on Publications, as provided in Chapter VI, Section 5, already considered. It is the belief of your Committee that this entire Section as rewritten should be adopted.

Sections 5, 6, 7 and 8 show no change.

The Speaker: We will present this also to the Committee for hearings if anyone wishes to be heard.

Dr. Albright: Section 9: As mentioned in Chapter IV, Section 2, page 6 in your mimeographed copy, a strict interpretation of this Section means that amendments to the Constitution and By-laws can be presented to the House of Delegates only through the medium of the Committee on Constitution and By-laws. If the House wishes to allow amendments to either Constitution or By-laws to be presented to the House of Delegates, then this sentence should be added: "Opportunity for members other than the Committee to present such amendments may be given by vote of the House of Delegates."

Sections 10, 11 and 12 have no change.

The Speaker: There is no controversy on Sections 9, 10 and 12.

Dr. Boice: I *move* that Sections 9, 10, 11 and 12 of Chapter IX be accepted as read.

Dr. M. G. Beddoes: I *second* the motion.

[*The motion was put to a vote and carried unanimously.*]

Dr. Albright: Will you make note in your Constitution that with the abolition of the Committee on Finances these Sections 9, 10, 11 and 12 are all advanced one in number; is that right?

Miss McCord: Sections 11 and 12 will be advanced one.

Dr. Albright: Sections 11 and 12 will be advanced one.

Section 13 is a new Section. As set forth, this will now be Section 12 instead of Section 13.

As set forth in the report of the Committee appointed to draft provisions for a Grievance Committee, which is in your hands, "The Grievance Committee shall consist of eleven members, one from

each Councilor District." That is the recommendation of the Committee; it is not in the Constitution and By-laws because we didn't have it in time to incorporate it in the Constitution and By-laws.

We drafted this provision for a Grievance Committee: "The Grievance Committee shall consist of eleven members, one from each Councilor District. Each Councilor District shall, at the annual session, submit to the president a list of three names of members from said District for membership on the Grievance Committee. The president shall appoint one of the three as a member of the Grievance Committee. The members of the odd-numbered Districts shall be appointed for a term of two years. Members from the even-numbered Districts shall be appointed for a term of one year. Thereafter each member appointed shall serve for a term of two years."

There is some wording in there that is as the Committee has submitted it, but it does not change the content: "If a vacancy occurs during the period between annual sessions, the Board of Trustees shall appoint a member from the Councilor District to fill the vacancy, this appointee to serve until the next annual session. A majority of the members shall constitute a quorum."

If a Grievance Committee is to be appointed the following amendments should be made:

(a) Amend Section 2 of Chapter VIII, page 16, the tenth line of the mimeographed old By-laws, by inserting after the word "Society" the following: "before the Grievance Committee."

(b) In the next to the last line of the same Section of the old By-laws change the period following "Councilor" to a comma and add "or charges filed against a member or county society by the Grievance Committee."

(c) Amend Section 1 of Chapter IX by inserting after "a Committee on Medical Education and Hospitals" the following: "a Grievance Committee (11) which Committee shall be chosen as stated in Section 13 of Chapter IX."

The above amendments, if enacted, provide for the appointment of and legalizing of the Grievance Committee. The functions of this Committee, their powers and limitations, are set forth fully in the report of the Committee appointed to draft the provisions for a Grievance Committee, a copy of which is in your hands.

Rules for the Grievance Committee, as submitted, are extensive in detail. Your Committee feels that these should be fully discussed by the House of Delegates. However, we feel that only the general function, powers and limitations of the Grievance Committee should be included in the By-laws. These rules and regulations may be drawn up in a separate resolution or memo, and the Grievance Committee instructed to follow them. They are too extensive to be incorporated in our printed By-laws.

It is also altogether likely that they will be subject to so much change as they are put into practice that we would not want to change the Constitution

and By-laws to meet every change in procedure of this Committee.

I would like to see those amendments in Section 9 concerning the Grievance Committee passed.

The Speaker: Do you wish to make a motion that those be acted upon now or sent before the Committee?

Dr. H. E. Farnsworth: I *move* that they be referred to the Reference Committee.

Dr. Bush: I *second* that.

[*The motion was put to a vote and carried unanimously.*]

The Speaker: Thank you, Dr. Albright.

Supplementary report of the Legislative Committee. Dr. Billingsley.

Dr. J. W. Billingsley: Mr. Speaker, your Legislative Committee wishes to make a short supplementary report in order to give you a little preview of what is expected to happen after the next election at the next session of the General Assembly in the State of Iowa. I have asked Mr. Barney Myers, who has been introduced to you before, and who is the attorney for your Legislative Committee, to take five or ten minutes to acquaint you with what we have to expect during this coming session.

The Speaker: If there is no objection to hearing Mr. Myers, we will give him the floor.

Mr. I. W. Myers: Mr. Speaker and members of the House of Delegates, I think first I ought to point out that there is a close relationship between all of your activities and those of your Legislative Committee. I also wish to point out again that we try to do only what you want done.

The suggestions and observations are made in that spirit. Some of it may be repetition, also. I like what Dr. Alcock said about taking stock of ourselves now. Concerning socialized medicine, it's a good thing we had a little breather. You and I have been slow to realize what is happening, but it certainly is crystal clear to both you and me now. Sometimes, too, I wonder what the difference is between socialism and communism. The objectives of the propagandists carried you and me away. They said "security," and finally it ended up with Oscar Ewing. They said "foreign aid" and "helping other people" and things like that, and we ended up with Hiss and Lattimore. Whatever you may think of Lattimore, certainly his suggestions were right down the communists' line and what they wanted in the Chinese situation, and certainly they are that way as far as Korea is concerned.

Federal aid was talked about today a bit. We all like federal aid, but we are beginning to realize we have to pay for it. Certainly if medical schools need more money you then should support them locally and not have a lot of it taken out as you pass it through Washington.

We are told also of this plan and that plan. There has been a debasing of American principles. They have been cussing the other guys for years, and now they are starting on you. There has been so

much of this double talk and saying, "This is to do this and that is to do that," and so on. "Do it our way. We don't intend to do it your way." They have even said that about medical care plans.

I had an interesting experience that illustrates this matter of double talk perfectly. I had occasion to draw a contract for a private enterprise some three or four years ago when it elected to furnish a governmental service by contract. That contract has been renewed for three years in succession. Do you know what is being proposed in the latest revision of that contract? It is not according to our understanding of contracts. The government wants a provision in it that all questions of fact are to be determined by the director, and if you are not pleased with his ruling, then you can appeal to the Department; but the Department's decision is final.

Every one of these ideas I have talked about briefly is a matter of moulding public opinion, and it is interesting to note that only 5 per cent of the people in the United States are moulding public opinion today. As they mould it, it becomes activated into legislation, and that is why legislation is so close to all of these other things that you are doing within your Society. Concerning spending and taxes that affect you and me in which we can have socialism one way or the other, we can have it one way as well as the other way. Iowa spending shows some indication of going down; at least we had a three-quarters income tax bill.

I think we can feel encouraged about our activities, but for every hour that you and I spend the other fellow who believes in these different things proposed is spending 10 days, and he will keep working.

Why did we stop them, and why did you stop socialized medicine? There were many reasons. At first, I think there was a negative approach. You took your part in publicity, but at first you took a negative approach. Then you started in with an affirmative approach. You had Blue Cross and Blue Shield; you made a sincere effort of better public relations. You have bragged a bit, and I think you need to do so about the record of your profession and of private medicine. This Grievance Committee may be a very forward step. I think there is some awakening of the people concerning the matter of taxation. I believe it may have helped turn the tide a bit, because men are realizing hidden taxes and how many days they are working for the government. They are worried about the infiltration into government of people who do not believe in this system. I think the Kansas City deal may have awakened them a bit.

Probably we need to be more affirmative. We need to crystallize our activities and relationships in either passing or defeating certain bills. We must be more affirmative. We must glorify and dramatize the medical profession more than we have done.

Dr. Thornton gave an excellent illustration, that 200,000 Indians need 500 men to supervise them. On that same basis nine million government employees

would be required to supervise government medicine.

In a Veterans Administration hospital it requires 14 days' hospitalization when a tonsillectomy is performed; in private medicine it requires a day and one-third. We must dramatize the cost and what the patient will get under government medicine and compare it with what he is receiving now.

Specifically—and I think this is what the Committee asked me to talk about, and again I say it is up to you—we must be active politically; and yet, in being active politically, you must do it independently. The State Society under the federal acts cannot do it; the county societies cannot do it. Possibly you will have to have a Political Action Committee. I believe there are other groups that are anxious and willing to work with you.

We must have primary activity. You will have to work with candidates both before and after the primaries. You should meet the candidates and know where they stand. You should support your friends actively. It all boils down to doing your part as a citizen working for the best interests of his community.

After all, the things I have mentioned merely spell citizenship—taking a part or else accepting what comes if we don't.

The Speaker: Thank you very much, Mr. Myers.

Next is the supplemental report of the Medical Education and Hospitals Committee. Dr. Scanlon.

Dr. George H. Scanlon: I realize you are all getting tired, so I will make this as brief as possible.

Report of Committee on Medical Education and Hospitals

This is my fourth annual report to the House of Delegates on medical education and hospitals. This Committee consisting of Dr. Frank G. Ober of Burlington, Dr. Frank C. Coleman of Des Moines, and myself have met twice with the Dean's committee at the State University of Iowa Hospital.

First of all, we deemed it advisable to give you a brief resumé of the previous reports of this Committee. In our first report we outlined the difficulties our medical school was having with its young men leaving, their inadequate salaries, etc., and presented the plan the medical school had adopted in hope of curing its ills. We presented the majority and minority report on this plan, and at that time the Committee felt it was definitely a form of socialized medicine. After reviewing what has transpired since our original report, this Committee has not changed its opinion on that point and feels that some definite steps should be taken if we are going to be successful in combating the evils of Mr. Oscar Ewing's dream.

We pointed out also that the plan adopted by the medical school was supposed to de-emphasize private practice, and in our report last year we presented the figures showing the amount of work done by each department, their operating expenses, commutation fraction and the amount transferred to the trust fund. In order to refresh your memories,

I will again quote it and compare it to this year's figures, 1949:

	Total Income	Operating Expendi- tures	Commuta- tion Fraction	Total Expendi- tures	Bal. Tr'd to Trust Fund
1948:	\$559,023.99	\$78,051.00	\$253,493.60	\$331,524.60	\$227,499.39
1949:	\$670,133.46	\$97,536.40	\$296,306.28	\$394,131.48	\$276,001.98

We wonder now if the president can explain how his plan de-emphasizes private practice. At the same time, we wonder if the Society appreciates the amount of competition it has with the group practice.

The private bed situation has not changed, and although there is an agreement with the State Society that there shall be no more than 5 per cent of the total beds for private patients, there have always been from 12 to 14 per cent.

We discussed also their mode of admitting medical students, their requirements, etc., and on this point the Committee wishes to emphasize the fact that the men in charge are doing a splendid and conscientious job, and we have nothing but words of praise because it is indeed a very difficult problem. These students are not chosen on grades alone. Their personality, adaptability, appearance, and many other factors are given consideration. In fact, I am personally glad it is their job and not mine.

So much for the brief resumé. Now let's get down to a few facts about medical education and hospitals. First, we wish to take up medical education, not as it applies to Iowa but as it should be considered in every medical school in the United States because we are all confronted with the same problem, namely, "how to train and get more men into general practice."

We must all admit that in the past decade we have been stressing specialization. The student has had this idea drilled into him from the time he enters medical school until he has finished. In a recent report by Dr. Victor Johnson, director of the Mayo Foundation for Medical Education and Research, many startling facts were brought out which every medical student and instructor in our medical colleges should know, and for the benefit of this august body I wish to quote from his report the following facts which are worthy of careful consideration.

"Specialty training has expanded at a staggering rate in the past few years. Early in the war everyone anticipated a tremendous increase in the post-war demand for residency training by physician veterans, many of whom participated in the accelerated medical school program and had their hospital training curtailed. During and since the war, the Council on Medical Education and Hospitals sought to stimulate, assist and co-ordinate the activities of various groups, organizations and institutions throughout the country seeking to meet these demands, while still preserving an acceptable quality of training. The demands have exceeded even the most extravagant estimates. In 1941 there were 2,256 approved residency positions. Today there are 15,172, three times the prewar number. With

these large numbers of physicians in specialty training, and with unprecedented numbers desiring certification by the American boards, serious thought must be given to the question, 'How many specialists in the various fields do we need in this country?'

"The apparent simplicity of this question is misleading, since the complications are numerous. For example, what is the proper sphere of practice of the specialist in pediatrics, internal medicine or obstetrics, as related to the general practitioner of medicine? Or, to what extent should anesthetics be given by physicians or specialists rather than qualified nurses? Furthermore, some specialists practice in more than one field: a neurologic surgeon usually does some neurology; a neurologist is likely to combine his work with psychiatry; and various combinations of ophthalmology and otolaryngology are common. Recognizing all these and other complicating factors, the author recently put this question to all members of all the American boards. Opinions expressed varied widely. Yet it was possible to formulate a rough first approximation to the possible number of specialists which might be required, from the opinions of more than 100 members of the various American boards, each expressing himself for his own specialty.

"The total figure which resulted was 52,800 specialists in all fields possibly required for the best medical service to the people of this country. At the time this study was under way, the United States Public Health Service also sought to estimate the number of specialists required in this country by an entirely different approach. It applied the existing full-time specialist population in those twelve states of the country which are most generously supplied with physicians, to the 1960 estimated population of the entire country. The figure for total specialists needed in 1960 was 56,299. Since the 1960 population has been estimated at about 7 per cent more than that of 1948, it would seem fair to reduce the United States Public Health Service figure of 56,299 for 1960 to about 7 per cent less, or about 52,300 for 1948.

"It could not have been anticipated that estimates of required specialists made by such different methods would yield results so similar; by the method of combining opinions of many specialists, it appears that nearly 53,000 specialists might be needed; by the method of extending the numbers of full-time specialists in the 12 best-supplied states to the entire country, it seems that more than 52,000 would be required.

"What is the current specialist population available to meet this estimated need? Here again, approximations must suffice. Of the 31,498 specialists certified by the American boards to March 1, 1948, perhaps about 29,000 are still alive. Adding to this figure the additional number of physicians who are not certified but limit their practice to a specialty (about 13,000) and a fraction (perhaps one-third) of the 25,000 physicians who give special but not exclusive attention to all specialty (equivalent to

about 8,000), we arrive at a total specialist manpower of about 50,000 now at work in this country. If only one-third of the present 15,000 residents become specialists, the required number estimated will soon be exceeded, even allowing for deaths of specialists in the meantime. If the estimates of about 52,000 required specialists is an approximation to the truth, it may be that our present total specialist population approaches or equals the optimal number for the best medical care.

"Thus it would appear that the present great volume of residency training should appreciably decrease in many fields. Indeed, it must decrease, unless 90 per cent of future medical graduates take three years of residency work in specialties, which is highly unlikely and equally highly undesirable. Furthermore, many of the residencies developed to meet immediate postwar needs are not of sufficiently high quality to warrant their continuation.

"If we assume for the moment that about 52,000 specialists are needed and about the same number are now or will very soon become available, we should retain a sufficient number of the best residency programs to (1) replace losses by death and retirement, (2) possibly increase somewhat the total number, especially in certain fields, and (3) provide advanced education for qualified physicians from abroad who will return to their native countries, preferably in academic posts."

Regarding our hospitals, something must be done by our national organization, the American Medical Association, and the American College of Surgeons in respect to staff membership. At the present time our large hospitals, particularly in the cities, have their staffs so closely controlled by specialists that no general practitioner is admitted to do any work. He has no place to take his obstetric cases, heart cases or minor surgery. He finds there is nothing left for him to do but take them to the hospital door and turn them over to a specialist. In other words, he milks the cow, takes the milk to the hospital, hands it to the specialist who removes the cream and hands him back the skimmed milk. Gentlemen, this is not right.

Don't misunderstand us. We are for advanced training and specialization. We realize we must have an adequate number of well trained men but when the national boards of the various branches of medicine and surgery, and the American College of Surgeons set the standards of membership on our hospital staff so high that no one but a board member can practice on their staff, then we are bound to fail, and socialized medicine with all its governmental controls will take over. Therefore, it behooves us to put our house in order.

So much for the national scope. Let's get down to our own school, analyze it, then correct it; and from our example, other institutions may follow suit. We should first, select a dean who has a strong personality, with experience and drive. He should be vested with complete authority to make decisions, commitments, etc., and should have direct access

to the president and Board of Education. Secondly, we should remove all taint of socialized medicine from our school, revise our systems of teaching, and have our professors and assistant professors in our out-patient departments and ward walks instead of residents. By so doing we would be recognized as a leader in medical education and not be looked upon as one floundering along.

The men at our institution are capable, well trained, energetic, and good teachers. They are willing and want to do a good job, but no group can expend itself and do 100 per cent work when they have to approach their problems with an element of fear. Fear and insecurity are two elements which destroy the minds and progress of men and institutions. Our medical school to be outstanding and successful should have full cooperation from the State Medical Society, the State Legislative Body, the Board of Education, and the president of our University. In the past and even at present many of these are lacking. Since this fact is recognized by those in a position to know, we as a Committee recommend that the Iowa State Medical Society adopt the following resolution:

"Whereas, For several years our Committee on Medical Education and Hospitals has worked diligently trying to establish a better relationship with the State University of Iowa; and

Whereas, After many meetings with committees from the faculty and with the president of the University, the desired progress has not been made;

Therefore, Be It Resolved, That for the benefit of the public, the medical school and the medical profession, the Iowa State Medical Society request, the chairman of the State Board of Education to appoint a committee of his Board who, with him, would meet with the highest ranking officers of the medical society and the president of the University, the purpose of the meeting being to see if some common ground cannot be found to serve as a basis for a closer relationship between the faculty and the medical profession in order to achieve a clearer understanding of the medical needs of the state, the adequacy of the number and type of doctors, and their location for the service of the people of Iowa."

Geo. H. Scanlon, M.D., Chairman
Committee on Education and Hospitals
Frank G. Ober, M.D.
Committee on Education and Hospitals
Frank C. Coleman, M.D.
Committee on Education and Hospitals

The Speaker: Thank you very much, Dr. Scanlon, for a splendid report. This report will be referred to the Reference Committee on Medical Education and Hospitals. If anyone has any questions or any suggestions to make concerning this report, we would like to have you see this Reference Committee.

We have several reports still to be made. What is your pleasure about recessing until a later time?

Dr. Boice: I move we recess until 7:30 p.m.

[The motion was severally seconded, put to a vote and carried unanimously.]

The Secretary: So far there have been 70 dele-

gates, 7 alternates, and 12 officers who have registered. If there are others who came in since we took the roll call, please let us have your names.

[The meeting recessed at 5:30 p.m.]

Sunday Evening, April 23, 1950

The second session of the House of Delegates convened at 7:40 p.m., Dr. T. F. Thornton, Speaker of the House, presiding.

The Speaker: The House will please come to order. May we have the supplementary report of the Medico legal Committee. Dr. Ely. I am told it has no report.

Committee on Medical Service and Public Relations; Dr. Sternagel. [No report]

Reports of Special Committees: Cancer. [No report] Fractures. [No report] Maternal and Child Health. [No report] Historical. [No report] National Emergency Medical Care Service; Dr. Coffin, Chairman.

Dr. L. A. Coffin: Mr. Speaker and members of the House, this letter is explanatory in its reading.

"I was selected by this Society to represent it at a training course on the medical aspects of atomic warfare. It was my duty to become sufficiently familiar with the special problems concerned and to find a way to bring this information to the physicians of this state, so that we may better protect our people.

"How you feel concerning this problem will in a large part determine its consummation. I know many of you will "pooh-pooh" this whole A-bomb business as a goblin, an administrative football to kick loyalties about, to throw a scare into the hearts of the people so that they may be more easily handled. That may be so, doctors! Have you considered the consequences if you are wrong? Do you not see the screaming, maimed, struggling persons who with your aid might have been better helped?

"Let us then proceed as if the worst were to happen, and if we are well organized and informed, we will be able to cope with any terrible tragedy no matter what it is.

"I believe every physician in this state should have knowledge of atomic type injuries and what can be done for them. I believe that every physician in this state should be able to assure each and everyone in his community that, should disaster strike, he will be there to help—that he can help. I believe that every physician in this state should be able to dispel the fear, the uncertainty, that now prevails concerning this problem, that he should be able to give the truth, the allayer of fear always.

There should be an informed physician in each county of our state who can and will carry this information to the remainder of the physicians in his county. It is recommended, therefore, that a physician be selected by each county society to meet for two days at some central location, preferably Des Moines or Ames, for the purpose of receiving instructions in the medical aspects of atomic warfare. This meeting should be held as soon as possible, possibly July or August."

Harold J. Peggs, M.D.

Dr. Coffin [continuing]: Whether you know it or not, Dr. Peggs was appointed by the Governor to take care of this work. I would recommend, Mr. Speaker, that you refer this letter to a special committee for its consideration and report to the House later.

The Speaker: This will be referred to the Committee on Reports of Officers. It is not an officer's report, but I think they can handle this and report back to the House.

[The secretary will read the report of the Committee on Mental Hygiene.

[The secretary read the report, marked No. 4]

REPORT OF THE MENTAL HYGIENE COMMITTEE

There has been some improvement in the situation in regard to the care of the mentally ill in the state of Iowa during the last year. More psychiatrists have entered the field of private psychiatry, and certain improvements have been made in the state hospital program. Mental hygiene clinics, through the assistance of the Mental Health Authority, have been opened.

In spite of these changes the state of Iowa is still woefully lacking in personnel and facilities for the care of the mentally ill. Trained personnel such as psychiatrists, psychologists, psychiatric social workers, psychiatric nurses and psychiatric aides are available in only limited numbers.

During the year an extensive building program has been going on in our state hospital system. Employees' buildings have been erected, increasing the possibilities of getting trained personnel. Some patients' buildings have been started, and one screening center has been opened by remodeling existing structures. The over-crowding in state hospitals continues to be excessive, even though many elderly patients have been returned to county homes for care.

At the present time patients are admitted to state hospitals by a judicial type of commitment, which is archaic in form and frequently prevents patients from receiving adequate treatment at an early date. A voluntary admission law is in effect but is being used only to a limited degree. Two years ago this Society supported the plan for a revision in commitment laws to include a non-judicial type of hospital admission.

The people of Iowa are exhibiting an awareness of the situation and are desirous of education and improvement in the fields of mental health, and it becomes more apparent that this Society should take the lead in providing the necessary assistance in such a program. To further improve the care of the mentally sick in this state, it is recommended:

(1) That appropriations for the care of the mentally ill be increased;

(2) That capital expenditures for a building program be increased;

(3) That there be a revision of the commitment laws, together with the establishment of a non-judicial commitment procedure;

(4) That acute treatment units be established at each state hospital;

(5) That mental health clinics be established at the local level wherever psychiatric services are available for the diagnosis and screening of mental conditions;

(6) That each member of the Iowa Medical Society try to visit a mental hospital in his area during the year;

(7) That the committee on mental health be continued within the Iowa State Medical Society.

Dr. Edward S. Parker, Chairman
Dr. John I. Marker
Dr. Herbert C. Merillat

The Secretary: [continuing]: I have been instructed by this Committee to *recommend* approval of this report.

Dr. Beddoes: I *second* the motion.

[*The motion was put to a vote and carried unanimously.*]

The Speaker: Dr. Fellows will give the report of the Grievance Committee.

Dr. Fellows: I was appointed to this Committee with Dr. Parsons, Dr. Phillips, Dr. Bush and Miss Mary McCord. We met two or three times in Des Moines and spent considerable time on it. We feel that the House of Delegates should consider this very seriously and that it should be adopted.

I will go over this report rapidly and tell you what we decided. We took this from the Colorado State Medical Society; it has a Grievance Committee set up, and with a few changes we feel this is about the plan we need in Iowa.

I would like to ask Barney Myers to come up and help answer any questions you gentlemen might have.

The Speaker: May I interrupt? I am convinced that this matter should be referred to the Committee on Constitution and By-laws. Any questions should be directed to them.

REPORT OF THE COMMITTEE APPOINTED TO DRAFT PROVISIONS FOR A GRIEVANCE COMMITTEE

Your Committee appointed to draft the Amendments to the By-laws for a Grievance Committee and the rules and regulations of the powers and duties of such Committee recommends the following:

1. Amend Section 2 of Chapter VIII of the By-laws by inserting after the word "Society" in the eighth line the following, "before the Grievance Committee,".

2. Further amend Section 2 of Chapter VIII by striking the period after the word "Councilor" in the seventeenth line and inserting in lieu thereof the following, "or charges filed against a member or County Society by the Grievance Committee."

3. Further amend the By-laws by amending Section 1 of Chapter IX by inserting after "A committee on medical education and hospitals (3)" the following, "A grievance committee (11), which committee shall be chosen as provided for in Section 13 of Chapter IX."

4. Further amend Section 1 of Chapter IX of the By-laws by inserting after the word "committees" in the seventeenth line thereof the following, "except the Grievance Committee,".

5. Further amend the By-laws by adding Section 13 to Chapter IX as follows:

"Section 13. The Grievance Committee shall consist of eleven members, one from each Councilor District. Each Councilor District shall at the Annual Session submit to the President a list of three names of members from said district for membership on the Grievance Committee, and the President shall appoint one of the three as a member of the Grievance Committee. The members from the odd-numbered districts shall be appointed for a term of two years, and the members from the even-numbered districts for a term of one year, and thereafter each member appointed shall serve for a term of two years. If a vacancy occurs during the period between Annual Sessions the Board of Trustees shall appoint a member from the Councilor District to fill the vacancy to serve until the next Annual Session. A majority of the members shall constitute a quorum.

"The Grievance Committee shall investigate and supervise the ethical deportment of the members of the Society. It shall make periodic recommendations for improvement of professional conduct, and shall prefer and prosecute charges before the appropriate judicial bodies against any physician deemed by the Committee to be guilty of unprofessional conduct.

"No member of the Grievance Committee may participate in deliberation of questions concerning the conduct of a physician residing in the jurisdiction of that Committee member's Councilor District.

"The Committee shall have power to adopt rules, to govern matters within its jurisdiction, and said rules after approval by the Executive Council shall be published in the official journal of the Society and shall be binding upon all members of the Society ten days after said publication."

Suggested Rules for the Grievance Committee of the Iowa State Medical Society

1. Purposes of the Committee—

a. To act as the Society's grand jury for investigation of complaints and/or initiation of investigations concerning professional conduct and ethical deportment.

b. To prepare for issuance to the entire membership in bulletin form, through the Executive Office, periodic bulletins on ethical deportment containing definite educational advice to physicians in this regard.

c. To initiate and prosecute, just as would a grand jury in civil procedure, charges against any physician deemed by the Committee guilty of unprofessional conduct. These charges may, in the discretion and judgment of the Committee, be filed originally with the Board of Censors of any component society, direct with the Councilor of the appropriate district of the State Society, direct with

the Executive Council of the State Society, direct with the State Board of Medical Examiners, or direct with any District Court, according to the nature of the charges.

d. By way of further definition, it should be understood that the Grievance Committee has no final jurisdiction in a judicial way. Just as would a grand jury, it will receive and pass its own judgment upon evidence, but it will not assume authority to discipline any physician. It may at any time express its advice to a member of the Society on any matter pertaining to professional conduct.

e. In pursuance of its function as a grand jury within the structure of the Society, the Committee shall have the power and authority to summon members of the Society to appear before it, either in connection with complaints involving the members summoned or as witnesses in cases involving other members. In case any member should fail to respond to such summons, the Grievance Committee shall cite the member before the Executive Council for contempt proceedings or disciplinary action.

2. Standards of Conduct—

The current edition of the Principles of Medical Ethics of the American Medical Association, as interpreted from time to time by the Executive Council of the Iowa State Medical Society for this state, shall be the final standard by which all professional conduct and ethical deportment are determined.

3. Organization of Grievance Committee—

The Committee shall annually elect a chairman, a vice chairman and a secretary among its own members. No member of the Committee shall be allowed to participate in the deliberation of questions concerning the conduct of a physician residing in the jurisdiction of that Committee member's Councilor District. In view of this fact, the vice-chairman will preside in all cases involving a member of the chairman's district and the vice chairman will serve as secretary in all cases involving a member of the secretary's district; thus, two disinterested officers of the Committee will always assume these functions. Any person against whom an accusation is made will be informed that the member of the Committee residing in his district will not be present during the Committee's deliberation of that case. However, if the accused is willing, and so states in writing, the Acting Chairman of the Committee may, on occasion, instruct the Committee member in the district of the accused to undertake preliminary investigation, obtain information and report to the Committee in order to expedite proceedings and eliminate unnecessary travel.

4. Professional and Technical Assistance—

a. Unless in a given case the Committee determines that verbatim testimony should be taken, no person other than elected members of the Committee, the Legal Counsel of the Society, if desired by the Committee, and any witness then being heard, will be admitted to any part of its proceedings when a complaint is being considered.

b. Should it become necessary in the opinion of

the Committee to take verbatim testimony in any case, the Committee will obtain the service of a certified shorthand reporter licensed by and holding a certificate from the State of Iowa, as provided by Chapter 115, 1946 Code of Iowa, for such purposes, or if testimony is taken outside the state, it shall be taken before a certified shorthand reporter licensed in that state. No regular employee of the Society will be requested or permitted to take notes or minutes on such matters.

c. In the event the Committee reaches the point in any investigation where the Committee feels it should file and prosecute charges against a physician before any judicial body, the Committee will, before filing such charges, consult with the regular retained attorney of the State Society to determine the sufficiency of the evidence.

5. General Procedure—

a. The Committee will receive complaints either verbally or in writing from any person, whether or not he or she is a physician, a member of the Society, an employee of the Society, a patient of a physician or any other person, lay or professional.

b. The Committee will respect the completely confidential nature of any complaint, provided that any complainant unwilling to appear personally before the Committee will be given to understand that such unwillingness prejudices against the possibility of the Committee being able to make a complete investigation. Every complainant will be invited to appear before the Committee with the assurance that even the fact of his appearance before the Committee, as well as the origin of the complaint, will be kept confidential; provided, however, that should any form of prosecution result, the Committee will of necessity reveal the names of prospective witnesses, even though these names may include that of the complainant.

c. The Secretary of the Committee will acknowledge receipt of all complaints, either verbally or in writing, as the circumstances of each case indicate to be wiser. The Secretary will likewise, in consultation with the chairman, arrange for meetings of the Committee with such frequency as may be necessary so that investigation of each complaint is carried out with reasonable dispatch, and will notify complainants and any other persons whom the Committee wishes to interview concerning meeting dates and places. The Secretary will, at all times, keep the Chairman informed concerning the progress of investigations conducted otherwise than at meetings of the Committee.

d. The Chairman, on receipt of information from the Secretary concerning each new complaint, shall determine whether first investigation or action on the complaint should be by the whole Committee at a meeting or by one or more members of the Committee individually. In most cases the Chairman will designate one or two members of the Committee who are not residents of the same district as the physician being complained against to undertake a preliminary informal investigation, bearing in mind the confidential nature of such investigation.

e. When an informal investigation like that referred to next above has convinced at least two members of the Committee (not including the member in whose district the physician under investigation resides) that no disciplinary action is indicated, and that both the complainant and the physician involved are willing to accept the advice of the Committee for reconciliation of the complaint, and so indicate in writing, the advice and suggestions of the Committee shall be reduced to writing and supplied to both complainant and the physician concerned, over the signature of the Acting Chairman.

f. When an informal investigation like that referred to in "d" above convinces any disinterested member of the Committee that disciplinary action is indicated, the entire Committee, except the member whose district is involved, shall consider the matter formally in meeting before further action is taken and further action shall be determined by a majority vote of those present.

g. When, after investigation and attempts to effect amicable settlement, the Committee is unable to reconcile differences over fees charged by a member of the Society, the Committee shall by a majority vote determine the fee which it deems fair and proper. In case the Society member shall agree in writing to the amount so fixed and shall fail to abide by his agreement, the Grievance Committee shall cite such member before the Executive Council for contempt proceedings or disciplinary action. Failure of the member to agree to such determination of the Grievance Committee shall constitute grounds for the preferring of charges of unprofessional conduct under the principles of ethics.

h. Whenever the Committee determines to file charges against a member of the Society with either a County Board of Censors or the Executive Council, the charges shall be reduced to writing and filed over the signatures of two officers of the Committee and over the typed signatures of all other members of the Committee who have taken part in the proceedings. In the event that, in consideration of a case involving complaint against a physician who is not a member of the Medical Society, it is determined that disciplinary charges should be filed against the doctor with a Board of Censors or the Executive Council were he a member of the Society, but it is also determined that the evidence does not justify proceedings before the State Board of Medical Examiners or a District Court, the Committee shall reduce its findings to writing and, subject to advice of Legal Counsel, shall notify the physician concerned of its findings and shall file a copy of this notice with the executive office of the State Society and the Secretary of the State Board of Medical Examiners for future reference.

i. Both the original complaint and the physician against whom the complaint has been filed will be furnished with a written statement of the final decision of the Committee as soon as possible after the Committee has completed its investigation of the case, whether (1) the Committee considers the case

closed, or (2) decides to file charges with a judicial body.

j. Immediately after each meeting of the whole Committee, the officers of the Committee shall prepare and deliver to the executive office of the Society, a memorandum suitable for inclusion in the monthly news bulletin, concerning any non-secret actions taken or general advice arrived at concerning the status of ethical deportment within the Society. In the event it is desired that such material be made the subject of a special bulletin, to the entire membership of the Society, the Committee shall make this decision known to the Executive Secretary.

k. Whenever the Committee determines that contemplated actions of the Committee, other than bulletin services indicated next above, will require use of certified shorthand reporters, telegraph or long distance telephone service, travel expense, or other matters involving State Society finances aside from routine services of the executive office, the Committee will, through the Executive Secretary, ask authorization of the Board of Trustees of the Society for such expenditures, estimating the financial requirements of the action then contemplated.

l. Officers of the Committee shall keep appropriate and sufficient records of all of its final actions, other than confidential matters, and shall prepare quarterly reports of progress to the Board of Trustees and an annual report and recommendations to the House of Delegates.

m. Until further notice, the Committee will meet regularly at 2:00 p. m. on the last Saturday of each calendar month in the executive office of the Society, subject to the privilege of the Chairman to postpone any such meeting if the date is impractical. The Committee shall have the right to meet at such other times and places it so elects.

[Dr. Fellows read the report of the Committee appointed to draft provisions for a Grievance Committee, marked No. 5.]

Dr. Fellows [continuing]: The Committee, along with Dr. Parsons, feels that this should be adopted.

The Speaker: Thank you very much, Dr. Fellows, for a very good report. This report will be referred to the Committee on Constitution and By-laws, as parts of it are similar to matters reported upon earlier.

Gentlemen of the House, I am very grieved to announce the death of Dr. James C. Hill of Newton. The House will please stand in silent tribute to his memory. Dr. Hill was an excellent Councilor and has just passed away.

[Silent standing tribute.]

The Speaker: Ladies and gentlemen, we are honored at this time to have as a guest of this House a distinguished physician from our neighboring State of Minnesota, Dr. Ernest N. Hammes of St. Paul. I would like to have him say a word to us.

Mr. Speaker: I am here under false colors, and I might as well confess it. My term as president of the Minnesota State Medical Association expired

two months ago, and my good friend Dr. Elias is president this year. I am one of the past presidents who slowly but surely gets put on the shelf. You will realize that pretty soon.

I am very glad to hear you have a Grievance Committee. I think it is an important and valuable Committee. We handle our grievances on a county level, the county societies having their own Grievance Committees. Patients and relatives complain, sometimes justly and sometimes unjustly; and we in Minnesota feel that the local society, who knows the patients and the doctors, probably can handle the situation better on the local level. This method has proved successful, but if it does not work out, the matter is referred to the Grievance Committee of the State Association.

First we have the complainants submit their grievances in writing so that we know what they are going to complain about; then we have the individual appear before the Committee to discuss the problem, and then we call in the doctor. If we feel the complaint is justified—if the bill is too high, as sometimes happens—or if the patient has a grievance which is not reasonable, we explain it to the patient. It is wonderful, the good feeling that has developed on the part of people who have grievances when they realize that the medical profession takes hold of their problems, censors their own men and handle it in this way. They feel something is being done. I believe it is important public relations and in these days we need good public relations.

I want to congratulate this Society on its Centennial and extend the good wishes of the Minnesota State Medical Association as its past president.

The one hope and wish I have is that when your next Centennial comes around, you still will be practicing medicine without interference from any bureaucracy in Washington.

Thank you.

The Speaker: Thank you very much, Dr. Hammes.

I shall go down the list again, calling for supplemental reports. Medicolegal Committee. [No report] Medical Service and Public Relations. [No report] Publications. [No report] Cancer. [No report] Fractures. [No report] Historical Committee.

Dr. Walter L. Bierring: We would like to announce that sample copies of *One Hundred Years of Iowa Medicine* will be on display in the morning. Unfortunately our printer could not complete the work for us, but it will be ready for distribution within the next four to six weeks. A free copy will be presented to each member of the State Society. Extra copies will cost \$2.50 each. We hope you will place your order for these extra copies now so that we may be able better to estimate the final number of copies to be printed.

It has been suggested that it might be of interest to some of you to have the signatures of the Historical Committee, so special pasters will be prepared with those signatures. If you feel they are worth \$1, they will be available.

The Speaker: Thank you very much, Dr. Bierring.

The Speaker: Dr. Olsen, do you have a report?

Dr. M. I. Olsen: Mr. Speaker and members of the House, I thought it might interest you, in as much as it has been five years since you authorized the organization of a prepayment plan, if I gave you just a bit of report at the end of those five years to show what has been accomplished and, probably, what has not been accomplished.

This is largely statistical, and I hope you will be interested in it.

REPORT OF SUB-COMMITTEE ON INSURANCE

Having submitted no written report for the handbook, I would like to make a brief report verbally on the progress and condition of your medical prepayment plan, Iowa Medical Service.

As of the end of the year, there were 1,942 doctors of medicine in the state enrolled as participating physicians. As of this date there are 2,051. There appears to be a fairly general acceptance of the plan by the profession, and relatively few serious problems or controversies arise with individual physicians or subscribers as to administration. There still is, and probably always will be, some lack of understanding of the provisions of the contracts and the purposes of the plan.

In their contacts over the state, Don Taylor and Tom Garbett have done a good job in bringing to the profession details of the plan, as well as some of our administrative problems. We are most appreciative of the good work they are doing.

We constantly find the need of the sympathetic understanding and support of the profession, if Iowa Medical Service is to serve the purpose for which it was organized and to attain its goal.

The membership as of Dec. 31, 1949, was 174,289, having doubled during the year. The increase has continued during the three completed months of this year, and now stands at a little over 200,000.

The earned premium income for the year was \$1,194,996.75. The claims including provision for unpaid doctors' fees totaled \$858,962.98. Administration and sales costs were \$158,405.97, leaving a balance before setting up reserves of \$177,627.82. Translated to percentages the claims accounted for 71.8 cents of the earned dollar, administration and sales for 13.2, reserve for contingencies 5, leaving a balance of approximately 10 cents.

It will be noted that utilization for the year was moderate, leaving a comfortable margin. For some unexplained reason utilization has risen rather sharply during the past two months, a condition common to the commercial companies as well.

A few changes in our practices, benefits and subscriber certificate are currently being contemplated:

(1) The stay of hospitalized medical care will be extended from our current 21 to 70 days. We are also authorizing individual consideration for medical care in specific cases which may call for more than the usual amount of attention.

(2) The income limits for full service are being increased from \$1,500 (individual) and \$2,500 (family) to \$2,000 and \$3,000 respectively. There has been a general and constantly recurring increase in the wage scale of the low and moderate income groups, and a decreasing number are qualifying for full service under our current income limits. This has inevitably resulted in increased sales resistance and made our subscriber contract less attractive and salable, as compared with that of the commercial company.

(3) These increased income limits will of necessity bring full service to a larger number of our subscribers. As a compensating factor we are in the process of making some revision upward in the fee schedule. In general our existing schedule has provided a maximum of \$150 for any one surgical procedure. In the proposed schedule a few procedures will call for a top of \$200, with many remaining as at the present level. Again we must emphasize that the schedule is adapted and adjusted to the group of people in the indicated income level paying our current premium rate and is in no sense an attempt to appraise the proper fee for any given surgical or obstetric procedure.

(4) The participating physician has sponsored and guaranteed performance under the plan. He has pledged himself to accept a lesser fee for his services if conditions make it necessary. We hope that it may never be necessary. The non-participating physician assumes no responsibility for the continued operation and solvency of the plan, and to that extent a lesser fee for him may be justified. Inherent, however, in the lesser fee may be a penalizing of the subscriber under his certificate, a situation difficult to justify. We are at this time paying all physicians on the basis of the plan's fee schedule.

(5) Plans are in the making, and provision is being made for enrolling persons on an individual as well as a group basis. In a state predominantly rural it is imperative that we do so if the benefits of our plan are to be made available more generally. This method of enrollment affords a much greater opportunity for antiselection and a virtual certainty of a higher claim ratio. Enrollment will be based on and subject to a signed statement by the proposed, covering medical history and physical condition. Most careful screening will be required to exclude persons who may wish to join merely to reap early benefits under the plan. Irritations on the part of subscriber will be more frequent at the time of enrollment as well as when claim is made. We shall undoubtedly find it necessary occasionally to refer to physicians on questions related to the medical history or physical impairments of their patients. We bespeak your fullest cooperation in the attempt to develop facts or verify statements made by the subscriber.

The premium rate for cases accepted on an individual basis will of necessity be somewhat higher than the corresponding group rate and the benefit somewhat less liberal. We do, however, plan to cover obstetrics written under a Family Contract.

Martin I. Olsen, M.D., Chairman

Dr. Olsen [continuing]: In closing may I say that we have just engaged a new man as our executive director, Mr. Woodrow Sherin, who until a week ago was deputy insurance commissioner. He is an actuary by training. He knows his stuff, and he is going to be very helpful, I am sure, in the promotion of our plan and in the development of the better things we all want for the plan.

Thank you.

The Speaker: Thank you, Dr. Olsen.

Dr. Olsen: Mr. Sherin, will you come forward? Gentlemen, this is Mr. Woodrow Sherin, who has been deputy commissioner of insurance. I don't know how I got him away from the department, but I did. From here on he will carry on and do the work for us. I did want you to meet him and to learn to know him.

The Speaker: Report of the Committee on Industrial Health. [No report] Maternal and Child Health. [No report] Scientific Exhibits. [No report] Speakers Bureau. [No report] Tuberculosis. [No report] General Practice.

Dr. Charles A. Nicoll: Mr. Speaker and members of the House of Delegates, the Committee on General Practice is a new Committee. It was appointed by the president this past spring. Our hope was to produce more general practitioners for the State of Iowa. We were a little slow getting started in our cooperation with the University, due to the death of the dean. We didn't get anything done until September.

Our report consists of three parts—a short report of our meetings, a few facts in which we believe, and what we think are a few constructive criticisms.

REPORT OF COMMITTEE ON GENERAL PRACTICE

The Committee on General Practice of the Iowa State Medical Society which was appointed last spring by the president presents the following report of our activities during the past year:

On Sept. 15, 1949, we had a joint meeting with the Dean's Committee of the University College of Medicine, at which time we tried to become familiar with its problems and inform its members of what else we hoped could be done to train more general practitioners in Iowa. Another meeting was held on Nov. 13, 1949, at which time suggestions were made to the University College of Medicine regarding general practice training. I might state that part of these suggestions came from our Committee and part from the directors of the American Academy of General Practice. On Jan. 22, 1950, a meeting of our Committee was held with the Committee of General Practice Residencies from the University College of Medicine, at which time they presented their program for General Practice Residencies which will be instituted July 1, 1950.

It is our belief:

- (1) That there is a definite need for well trained general practitioners in Iowa, both urban and rural;
- (2) That it is a definite obligation of the State

University College of Medicine to furnish doctors for the state of Iowa, both general practitioners and specialists;

(3) That the well trained general practitioner can furnish the most economical type of service and can handle well from 80 to 90 per cent of all medical problems;

(4) Training of specialists has increased at a staggering rate in the past few years. In 1941 there were 5,286 approved residencies in the U. S. In 1949 there were 15,172, three times the prewar number. There are now unprecedented numbers who also desire certification by American Boards. Should the present rate of residency training continue, 90 per cent of all medical students will become specialists within the next 10 years. This would be not only highly undesirable but well nigh calamitous to organized medicine.

In view of the above facts it is our belief that six residencies in general practice at our State University Hospital is only a small step in the right direction and certainly not an adequate number to supply the needs of the state. We are also keeping in mind the fact that several hospitals in Iowa either have or are instituting a program for general practice training.

The following suggestions are offered as a constructive program:

(1) A modification of our undergraduate training as has been done in several other institutions with the view of giving the student more well rounded training and a better understanding of the problems and advantages of general practice by being in intimate contact with men who are engaged in the general practice of medicine.

(2) An adequate residency training program for general practice of about two years' duration which will include preceptorship in both office and hospital practice in smaller city hospitals.

(3) Since medicine is a progressive science, adequate facilities for postgraduate training must be available to all doctors, both general practitioners and specialists. This can be accomplished by postgraduate courses given by the faculty of the College of Medicine both in the University Hospital and by regularly scheduled programs in selected areas of the state.

Charles A. Nicoll, M.D., Chairman

Dr. Nicoll [continuing]: I do not happen to be a member of the House, but I would like to recommend the adoption of this report. I so move.

Dr. Farnsworth: I second the motion.

[The motion was put to a vote and carried unanimously.]

The Speaker: Dr. Phillips has some announcements.

The Secretary: Mr. Speaker and gentlemen, these are the applications for life membership for 1950. The following names have been suggested on the basis of 50 years' practice and 30 years' member-

ship. They also have been approved by their respective county societies:

Fred C. Foley, Newell
Fred B. Morgan, Clinton
Frank W. Meyers, Dubuque
J. William Presnell, Scranton
Otto H. Pagelsen, Iowa Falls
Frank E. Boyd, Colfax
Augustus Sinning, Iowa City
Clarence E. Van Epps, Iowa City
Aaron C. Conaway, Marshalltown
Erwin Schenk, Des Moines
Frank E. Bellinger, Council Bluffs
Herman D. Oggel, Maurice
Clyde A. Boice, Washington
Gates M. Brown, Dayton
Harry E. Nelson, Dayton
Allie H. Wakeman, Fort Dodge
Ernest L. Kaufman, Fort Atkinson
William H. Mott, Farmington
Henry A. Gray, Keokuk
Charles C. Fowler, Lovilia
Thomas E. Gutch, Albia
Elmer E. Morton, Manning

The following names have been suggested for life membership on the basis of disability:

Edward M. Myers, Woodward.
Charles F. Starr, Mason City
George C. Scanlan, De Witt
Jonathan Johnson, Alden
Paul A. Reed, Iowa City
John L. Cruzen, Barnes City
Fred J. Jarvis, Oskaloosa
Oscar W. Okerlin, Essex
Julia F. Hill, Des Moines
James E. Kessell, Des Moines
Henry I. McPherrin, Des Moines
Leslie M. Nourse, Des Moines
George E. Sanders, Des Moines
Albert C. Reynolds, Des Moines
Christine E. Hill, Council Bluffs
Harriett S. Hamilton, Council Bluffs
Joseph O. Trimbo, Chelsea
Charles E. Buckley, Blockton
Chester Demaree, Lacona
Leroy R. Tripp, Sioux City
Ray A. McLean, Fayette
Louis C. Winter, Wilton Junction

I move that these members be given life memberships.

Dr. Olsen: I second the motion.

[The motion was put to a vote and carried unanimously.]

The Speaker: Dr. Phillips will make the report of the Committee on Necrology. We lost 50 members through death during 1949. The youngest member was 33, the oldest 99. We will stand while the secretary reads the names.

[The audience arose and stood in silent tribute as the secretary read the report of the Committee on Necrology.]

The Speaker: Gentlemen of the House, we are now under the head of new business.

Dr. J. A. Downing: As you know the State of Iowa says there shall be no corporate practice of medicine in Iowa. If you wish to check on what I am going to read, you may read the supplemental report to the Board of Trustees in the *Journal of the American Medical Association*, June 18, 1949, page 619. This was given to me by the Anesthesia Department, and it apparently speaks for the X-Ray Department and the Department of Pathology in hospitals also.

RESOLUTION

Whereas, Chapter III, Article VI, Section 6, of the recently adopted revised Principles of Ethics of the American Medical Association reads:

"PURVEYAL OF MEDICAL SERVICE"

"Section 6. A physician should not dispose of his professional attainments or services to any hospital, lay body, organization, group or individual, by whatever name called, or however organized, under terms or conditions which permit exploitation of the services of the physician for the financial profit of the agency concerned. Such a procedure is beneath the dignity of professional practice and is harmful alike to the profession of medicine and the welfare of the people";

Whereas, The committee known as the Hess Committee reported to the American Medical Association House of Delegates in Atlantic City in June 1949, in detail, regarding the Practice of Medicine by Hospitals; and

Whereas, The Hess report in one paragraph stated in explanation as follows: "Therefore, hospitals and medical schools cannot charge patients fees for medical services rendered by physicians, even though the physicians are full time employees of an individual or institution"; and

Whereas, The Hess report was adopted by the American Medical Association House of Delegates, and the Trustees of the American Medical Association were instructed to enforce the principles and obligations involved; and

Whereas, The House of Delegates of the American Medical Association in Washington in December 1949 reaffirmed its belief in and confirmed the principles stated in the Hess report and directed that action by the Trustees be deferred only until all legal requirements were met in order to insure that all action taken shall comply with the law; and

Whereas, The Trustees of the American Medical Association are to report to the House of Delegates in June 1950 regarding this matter and the Hess Committee is to report its further study; therefore be it

Resolved, That the House of Delegates of the Iowa State Medical Society confirms the action of the American Medical Association House of Delegates regarding the reaffirmation of the principles of the so-called Hess report; and be it further

Resolved, That the House of Delegates of the Iowa State Medical Society requests the American Medical Association House of Delegates to expedite action

and implement methods that will enforce Section 6, Article VI, Chapter III of the Principles of Medical Ethics without delay; and be it further

Resolved, That our Delegates to the American Medical Association are hereby instructed regarding these desires and requested to work for their fulfillment.

Dr. Downing [continuing]: I recommend that these resolutions be adopted.

[*The motion was severally seconded, put to a vote and carried unanimously.*]

The Speaker: Dr. Ober, do you have a report?

Dr. F. G. Ober: I have no report, but I would like to say that for some time there has been criticism, both on the part of the laity and the profession, concerning the setup of the coroner situation throughout the state. In other words, it is a political plumb for the undertaker.

Mr. Speaker, I would like to introduce this resolution:

"Whereas, There is great need for improvement in the acquisition, clarification and use of medical evidence in matters of criminal investigation, and

"Whereas, The present system of providing the handling of this is through law enforcement officers and courts of law of this state with competent medical evidence not adequate in many respects, and

"Whereas, It is medicine's duty to offer advice and help to legislative bodies in achieving better use of medical evidence; therefore, be it

Resolved, That this Society affirms its belief that legislative steps should be taken to provide a better system of medical investigation for law enforcement in this state; and be it further

Resolved, That a committee be appointed by the president to investigate these matters and to offer a specific recommendation for the accomplishment of these purposes."

I so move.

Dr. Boice: I second the motion.

[*The motion was put to a vote and carried unanimously.*]

The Speaker: Is there other new business?

Dr. Dulin: Mr. Speaker, this afternoon we heard the president discuss the problem of federal aid and federal grants to medical education. It has been discussed not only by the president but also by other members.

I would like to introduce the following resolution:

"Resolved, That the House of Delegates of the Iowa State Medical Society, in session at this time, go on record as opposing federal grants to medical educational institutions."

I so move.

Dr. Luse: I second the motion.

[*The motion was put to a vote and carried unanimously.*]

Dr. C. V. Edwards: I wish to propose the following amendment to the By-laws; this is introduced upon the recommendation of the Pottawattamie County Medical Society:

That Article II, Chapter IV, be amended to read, "Each component county society shall be entitled to send to the House of Delegates each year one delegate for every 25 members, and one for each major fraction thereof."

I move that this be referred to the Reference Committee on Constitution and By-laws.

Dr. Downing: I second the motion.

[The motion was put to a vote and was lost.]

The Speaker: The motion is lost. Since, however, a motion to refer is not ordinarily debatable, the Chair will refer the matter to the Committee. Anyone who wishes to appear on it before the Committee may do so. The secretary has some announcements to make.

The Secretary: Mr. Speaker, I have three letters to read. This is dated April 15, from Dr. Beddoes, secretary of the Fayette County Medical Society.

Resolution

Fayette County Medical Society to the Iowa State Medical Society in convention at Burlington, Iowa.

"Whereas, There is a lay organization, sponsored and promoted in Iowa by Mr. Murray, whose purpose is to form a community health council, sponsored by American Farm Bureau, Congress of Parents and Teachers, Federated Woman's Clubs, Tuberculosis Association, American Cancer Society, Infantile Paralysis Association, Society for Crippled Children, State Educational Association, Iowa State Dental Society, Iowa State Nurses Association, American Red Cross. Please see pages 8 and 9 in Bulletin, Community Health Council, 1949. This Council, through the Fayette County Farm Bureau, votes financial aid from Fayette County Tuberculosis Association to furnish money to hire a public health nurse until Jan. 1, 1951—the Tuberculosis Association to pay one half of the expenses incurred and the State Board of Health to the State of Iowa to pay the other one half. The Farm Bureau ladies circulated a petition securing 2 per cent of the votes of Fayette County, as prescribed by law, and presented it to the Board of Supervisors, that a public health nurse was deemed necessary to the health and welfare of the people of Fayette County;

"Whereas, This new unit, the Community Health Council, is another unit engaged in public health activities, controlled by lay organizations and representing lay organizations, assuming the activities and interest of the Iowa State Board of Health (which Board of Health has always closely cooperated with the physicians of the Iowa State Medical Society);

"Whereas, Some central power has entered into the field of public health using lay organizations to form a way into public health relations which can easily assume the functions designed for centralization of power and socialization of medicine; therefore be it

"Resolved, That all county medical societies shall refer all public health activities as to hiring of doctors and nurses for public health and the passage

of all laws to the Iowa State Board of Health and keep the same under the control of the Iowa State Medical Association and not under the control of the Community Health Council. We petition the State officers to refer this to proper committee for further study."

Miss McCord: That probably would be taken care of by the new resolution of the Board of Trustees.

The Speaker: This matter will be referred to the Reference Committee on Reports of Officers.

The Secretary: This letter is from Dr. Bierring, commissioner for the State Department of Health, dated March 31, 1950.

A. B. Phillips, M.D., Secretary
Iowa State Medical Society
Bankers Trust Bldg.
Des Moines, Iowa

Dear Doctor Phillips:

By request of the State Board of Medical Examiners, I am asked to submit herewith an outline of the arrangement that has been made with the Iowa State Board of Control with reference to the employment of physicians who are graduates of foreign medical schools, including displaced physicians, as assistant physicians in the four State Mental Hospitals—Clarinda, Cherokee, Independence, Mount Pleasant, and the Woodward Hospital and School and the Glenwood State School, as contained in the enclosed action of the Board on July 11, 1949.

These applications are processed through the Secretary of State's office, the Secretary being Chairman of the Committee on Displaced Foreign Physicians. The educational credentials of each applicant are reviewed by the State Board of Medical Examiners, and an approval of the same submitted to Dr. C. C. Graves, Director of Mental Hospitals in Iowa.

As this arrangement had a rather late start, only four such physicians are now being employed: Nuchim Elbert at Mount Pleasant, Karlis Neiders at Woodward, Reinhold Snikeris at Cherokee, and Kurt Wolff at Mount Pleasant. Two Chinese physicians will be employed as of June 1, 1950: Ping Chung Lind and Yo Ru Yuan. There are about twelve more applications being processed, which will be referred to the meeting of the Board on April 10 for final approval.

It is generally thought that twenty will be the limit of such foreign medical graduates to be considered under the aforementioned agreement.

It will probably be necessary to renew this agreement for one more year on July 11, 1950.

This arrangement was entered into largely on a humanitarian basis, and it is felt that it is sufficiently safeguarded against violations of the Medical Practice Act. It is a trial plan until more definite information can be obtained regarding the standing of certain foreign medical schools. (At the present time the American Medical Association, through the Council on Medical Education and Hospitals, is authorized to collect information, which will soon be available to State Medical Boards, to

determine eligibility of foreign medical graduates for licensure in this country.)

The State Board of Medical Examiners will also appreciate an opinion regarding the requirement of citizenship for licensure in Iowa. It will be noted from the enclosed booklet on The Practice of Medicine and Surgery that full citizenship is required for licensure. This is a Board regulation and not contained in the Medical Practice Act, and therefore can be changed to completion of first papers or other form of modification.

The State Board of Medical Examiners will appreciate an opinion regarding the above.

Very truly yours,

Walter L. Bierring, M.D., Commissioner

IOWA STATE BOARD OF MEDICAL EXAMINERS

At the meeting of the Board held July 11, 1949, the following action was adopted:

"That the State Board of Medical Examiners approve the appointment of physicians who are graduates of foreign medical schools, including displaced physicians, as assistant physicians in the four State mental hospitals—Clarinda, Cherokee, Independence, Mount Pleasant, and the Woodward Hospital and School and the Glenwood State School, on the condition that their medical work be supervised by a licensed physician, and that they be provided with definite courses of instruction by members of the hospital staff, and such other recognized medical teachers as may be available. It was further requested that attendance at such courses of instruction be properly graded, and a report of the same be submitted to the State Board of Medical Examiners each quarter. At the end of one year of service, the further course of each assistant physician will be individually considered by the State Board of Medical Examiners."

It was recognized that while this action met the emergency for only one year, it would permit further time for special consideration of the problem by the two agencies concerned.

Dr. Bierring: May I add a few comments on that? As soon as Congress passed the action admitting a certain number of displaced persons into this country, of which approximately 1 or 2 per cent were physicians, there were two thoughts in the minds of the Iowa people. One was the humanitarian spirit and the other was the practical application of such displacement.

As you will remember, the Governor appointed a committee to consider all these displaced persons coming into Iowa, of which Mr. Synhorst, the Secretary of State, is the chairman. The Board of Examiners, of whom none are here now, then decided to enter into an agreement with the State Board of Control, who were in need of medical assistance, and who, under their plan of salary and other considerations, were unable to obtain qualified people. They were asking for a limited number who could

serve as assistants but who were not to practice medicine in any sense in the hospitals.

These various applications or credentials were reviewed and found difficult to evaluate. In many instances they lacked the positive evidence of graduation, because such evidence had been destroyed in those countries that had come under Hitler control or that subsequently were back of the Iron Curtain.

At the present time there are four persons employed at the several institutions; there are about eight more applications being considered. At a recent conference with the Board of Control it was decided that hereafter only those credentials would be considered in which the applicant, after the completion of the citizen's requirement, might be acceptable for practice in Iowa.

It has become difficult to open the door to these people without getting a lot of undesirable people. What we will do at the end of the year I do not know, but we want you to know that we are trying to observe the requirements and are admitting these people first as part of the request of the mental institutions, and, secondly, there is a certain humanitarian element involved.

I think the Board would like an expression from the House of Delegates as to the advisability of continuing the maintenance of the citizenship requirement. That requirement does not prevail in Illinois. Any foreign graduate can go to Illinois and take the examination and be licensed. The same applies to New York State. Most of the states require citizenship.

The Board here feels that the citizenship should be maintained, and that great care should be exercised in admitting these foreign graduates for the present, until we have more definite information as to their various credentials.

The Speaker: Dr. Bierring, may I ask you a question to satisfy the Chair? If I refer this to our Reference Committee on Medical Education and Hospitals for their report, would that be agreeable?

Dr. Bierring: That would be satisfactory. I would like to add that the House of Delegates of the American Medical Association, last June, authorized the Council on Medical Education and Hospitals to employ full time personnel to investigate foreign medical credentials and medical education in various countries. The Advisory Committee will meet again on May 6, at which time further information will be available.

To the present time the medical schools of Great Britain and the Swedish and Scandinavian countries, Finland and the Netherlands, have been adjudged equivalent in their training to that of any good American school. The next point will be further countries, such as Switzerland, possibly Italy, and certain other foreign countries, and possibly South America. These will be determined only after a personal investigation and survey by an authorized representative from the American Medical Association.

The Speaker: Thank you, Doctor. This will be

referred to Dr. Farnsworth, Dr. Sayre and Dr. Ward.

Dr. Phillips, have you something else to report?

The Secretary: Mr. Speaker, there is one more communication which Dr. Alcock has asked be read. It is from the Department of the Army, John H. Plattenberg, Representative, Overseas Affairs Branch, dated April 13, 1950.

[The communication was read.]

Dr. Rohlf: Mr. Speaker, who will be the councilor for the Sixth District now?

The Speaker: Dr. Rohlf, the Chair will appoint you to be in charge until arrangements are made.

The Secretary: I have one other matter, Mr. Speaker. The Iowa State Medical Society is supposed to give the governor the names of several doctors, one of whom is chosen to serve on the Board of Medical Examiners. Dr. Johnson's term is expiring this year, I understand, and the Society must make suggestions as to his successor. If any of the doctors around Council Bluffs know whether he wants to continue as medical examiner on that Board, we would like to know it.

The Speaker: We will refer that to Dr. Farnsworth and the Reference Committee on Medical Education and Hospitals.

I would like to announce the various nominations that are to be made:

(1) Two or more candidates for president-elect. (no two nominees to be from the same county.)

(2) One nominee for each of the following:

First vice president

Second vice president

Trustee (three years)—Dr. Sternberg's term expires

Councilor (five years)

4th District—Dr. Downing's term expires

9th District—Dr. Howell's term expires

(3) Two nominees for delegates to American Medical Association. (Dr. Braunlich's and Dr. Conzett's terms expire Jan. 1, 1951.)

(4) Two nominees for alternate delegates to American Medical Association. (Dr. McFarland's term expires Jan. 1, 1951.)

(Delegates and alternate delegates to the American Medical Association must have been fellows of the AMA in good standing for two years previous to this session. They do not take office until Jan. 1, 1951. This is in conformity with the Constitution of the AMA.)

Following are the instructions to the Nominating Committee: The Constitution and By-laws have the following to say about the duties of the Nominating Committee:

Constitution, Article VIII, Section 3: "Nominees must have been members in good standing for the past five years."

By-laws, Chapter V, Section 2: "On the first day of the annual session there shall be elected a Committee on Nominations consisting of 11 delegates, one from each councilor district. Such Committee shall be selected by the delegates of each councilor

district in separate caucuses. It shall be the duty of this Committee to consult with the members of the Society and to hold one or more meetings at which the interests of the Society and the profession of the State for the ensuing year shall be carefully considered. The Committee shall report the results of its deliberations to the House of Delegates in the shape of a ticket containing the names of two or more members of the Society for the office of President-elect, and one member for each of the other offices to be filled at the annual election. Two candidates for President-elect shall not be named from the same county."

Has any member anything further to bring before this session?

Dr. Downing: I move we adjourn.

[The motion was severally seconded, put to a vote and carried unanimously.]

[The meeting adjourned at 9:20 p.m.]

Wednesday Morning, April 26, 1950

The third and final session of the House of Delegates of the Iowa State Medical Society convened at 8:00 a.m., Dr. T. F. Thornton, speaker of the House of Delegates, presiding.

The Speaker: The meeting of the House will please come to order. The first order of business is the roll call by the secretary.

The secretary called the roll, and seventy-five members of the House were present, as follows:

DELEGATES

Black Hawk—T. L. Trunnell
Black Hawk—E. L. Rohlf
Boone—W. H. Longworth
Bremer—P. J. Amlie
Buchanan—R. L. Knipfer
Buena Vista—H. E. Farnsworth
Butler—F. A. Rolfs
Carroll—J. M. Tierney
Cerro Gordo—C. O. Adams
Cherokee—J. H. Wise
Chickasaw—P. E. Gardner
Clay—E. E. Munger, Jr.
Dallas-Guthrie—H. W. Smith
Davis—H. C. Young
Delaware—H. H. Ennis
Des Moines—F. G. Ober
Fayette—B. A. Hall
Hamilton—F. F. Hall
Hancock-Winnebagos—C. V. Hamilton
Iowa—C. F. Watts
Jefferson—L. D. James
Johnson—R. H. Flocks
Johnson—J. W. Dulin
Johnson—S. C. Ware
Kossuth—T. J. Egan
Lee—L. C. Pumphrey
Linn—C. H. Stark
Madison—I. K. Sayre
Marion—R. V. Mater
Marshall—O. D. Wolfe
Monona—E. C. Junger
Montgomery—Oscar Alden
Muscatine—C. P. Phillips
Plymouth—W. L. Downing
Polk—M. T. Bates
Polk—F. C. Coleman
Polk—J. A. Downing
Polk—M. I. Olsen
Pottawattamie—C. V. Edwards

Poweshiek—S. D. Porter
 Sac—L. B. Amick
 Scott—George Braunlich
 Story—E. B. Bush
 Tama—C. W. Maplethorpe
 Van Buren—L. A. Coffin
 Wapello—C. A. Henry
 Warren—L. E. Hooper
 Washington—E. D. Miller
 Webster—E. M. Kersten
 Woodbury—F. D. McCarthy
 Woodbury—E. M. Honke
 Wright—G. E. Schnug

ALTERNATES

Clarke—H. N. Boden
 Dubuque—D. F. Ward
 Henry—J. S. Jackson
 Jasper—J. W. Ferguson
 Lucas—H. D. Jarvis
 O'Brien—L. H. Mattice
 Pocahontas—J. B. Thielen
 Polk—R. L. Parker
 Polk—C. W. Losh

STATE SOCIETY OFFICERS

President—N. G. Alcock
 President-elect—T. F. Thornton
 Secretary—A. B. Phillips
 Treasurer—N. B. Anderson
 Trustee—W. A. Sternberg
 Trustee—B. T. Whitaker
 Trustee—R. N. Larimer
 Councilor—L. L. Carr
 Councilor—M. T. Morton
 Councilor—E. F. Beeh
 Councilor—H. A. Housholder
 Councilor—C. A. Boice
 Councilor—E. B. Howell
 Councilor—J. G. Macrae

The Speaker: The secretary reports a quorum present. I declare the meeting regularly opened and ready for business. I will ask for a motion from the House to have the minutes of the past meetings approved with this one.

Dr. T. L. Trunnell: I so move.

Dr. J. B. Thielen: Second the motion.

[*The motion was put to a vote and carried unanimously.*]

The Speaker: The next order of business is the report of the Committee on Nominations.

Dr. O. D. Wolfe: Your Nominating Committee recommends the following candidates:

President-elect: Donald C. Conzett, Dubuque, and Clyde A. Boice of Washington.

For First Vice President: George H. Scanlon of Iowa City.

For Second Vice President: Bush Houston of Nevada.

For Trustee: Lonnie A. Coffin of Farmington.
 For Councilor:

Fourth District—Wendell L. Downing, Le Mars

Sixth District—Otis D. Wolfe, Marshalltown

Ninth District—Elias B. Howell, Ottumwa

For Delegates to the American Medical Association: George Braunlich, Davenport; Julian E. McFarland, Ames.

For Alternate Delegates to the American Medical Association: Frank G. Ober, Burlington; Ernest M. Kersten, Fort Dodge.

The Committee has a supplemental report which Dr. Ober will present.

Dr. F. G. Ober: "Whereas, Dr. Walter Sternberg requested that he not be considered for further service in this Society, be it

"Resolved, That this House of Delegates go on record in expressing regrets that he cannot serve; furthermore, that this resolution be an expression of appreciation for his outstanding work for the advancement of organized medicine; and be it further

"Resolved, That this resolution become a part of the permanent record of the proceedings of this body and that a copy of this resolution be forwarded to Dr. Sternberg."

Dr. Boice: I move its adoption, Mr. Speaker.

[*The motion was severally seconded, put to a vote and carried unanimously.*]

The Speaker: As tellers for this election I shall appoint Dr. Trunnell of Blackhawk, Dr. Thielen of Pocahontas, and Dr. Bush of Story. Will you prepare the ballots for the election of the president-elect, please. While the ballots are being prepared we will entertain nominations from the floor if there are any. Hearing none, the tellers will kindly distribute the ballots.

Dr. Boice: Mr. Speaker, I arise for a personal privilege.

The Speaker: Granted, Dr. Boice.

Dr. Boice: I think it is well known to most of the delegates that I do not have and never have had the slightest desire to be the president of the State Society. I much prefer and always have preferred to work in the ranks. I know that the Nominating Committee must put up two names, because I wrote that By-law myself. Therefore, Mr. Speaker, if I am in order, I desire to move that the secretary be instructed by this House of Delegates to cast the entire vote for Dr. Conzett of Dubuque for president-elect.

Dr. Bush: I second the motion.

[*The motion was put to a vote and carried unanimously.*]

Dr. J. A. Downing: I move that the secretary cast the unanimous ballot of the Society for the remainder of the ticket.

Dr. H. A. Housholder: I second it.

[*The motion was put to a vote and carried unanimously.*]

The Secretary: Mr. Speaker, I cast the unanimous ballot for the president-elect, Donald C. Conzett, and the other nominees whose names originated from the Nominating Committee's report.

The Speaker: The nominees are duly elected. Will the delegate from Dubuque or anyone else who sees fit to do so escort the president-elect to the platform, please?

[Drs. Ward and Boice escorted Dr. Conzett to the platform, and the audience arose and applauded.]

The Speaker: Gentlemen, the president-elect, Dr. Conzett.

Dr. Conzett: Gentlemen, you don't want a speech from me at this time. All I can do is to express my gratitude and my very deep and real humility in accepting this job. I think you have given me this job as a mandate to work. I assure you I will. Thank you, gentlemen.

The Speaker: We will proceed with the work of this House. As I stated in my opening remarks, this House has before it probably greater problems than any other House in the history of this organization. We hope that everyone will give all-out consideration to the reports. We hope you have gone before the various Reference Committees and have satisfied yourselves on the matters you wished to take up with them. First we will have the report of the Reference Committee on Constitution and By-laws. Dr. Caughlan, Chairman.

Dr. G. V. Caughlan: Mr. Speaker and members of the House of Delegates, the Reference Committee, composed of Dr. Albright and Dr. Bernard and myself, met in several sessions and went over this Constitution and By-laws which you heard read the other night. Dr. Albright has done a tremendous job in writing this new Constitution and By-laws, and because of that I thought (and Dr. Bernard agreed with me) that it was only fitting that Dr. Albright read the report. I will call upon him now to do so.

Dr. Albright: I hope you will all have your Constitution and By-laws with you for reference as we go along.

I believe you are all aware that if there is so much as a change in a period or comma in the Constitution or By-laws a note must be made of it, as the change constitutes an amendment. Consequently, we are having to make recommendations regarding the Constitution which will have to be carried over until 1951 for vote.

The Reference Committee on Constitution and By-laws met at 9:00 a.m. Monday, April 24, and sat until noon, then met again at 5:30 p.m. and sat until 6:30 p.m. Its conclusions are as follows:

In regard to the Constitution, there is no change in Article I. In Article II there is a change of wording only. Articles III and IV are transposed in the new version.

All of these Articles were presented to the first meeting of the House on Sunday, April 23, were voted upon, and will lie over for the final vote in 1951.

Article V, Section 2, was amended last year to include the three delegates to the American Medical Association as members of the Executive Council. Consequently that portion of Article V, Section 2 (the final paragraph), can be voted upon today. The first paragraph of Section 2 will have to lie over until 1951, since it was presented for the first time on April 23, 1950.

Article VI has no changes.

Article VII, Section 1, has no changes. Section 2 has been changed to conform with changes made in the By-laws last year.

Article VIII, Section 1, contains the addition of the speaker and the vice speaker. It was presented for first reading in 1949 and can be voted upon today.

Mr. Speaker, I *move* the acceptance of the report thus far.

Dr. E. C. Junger: I *second* the motion.

[*The motion was put to a vote and carried unanimously.*]

Dr. Albright: Mr. Speaker, I now *move* the adoption of Article V, Section 2, last paragraph, Article VII, Section 2, and Article VIII, Section 1, as just approved.

[*The motion was duly seconded, put to a vote, and carried unanimously.*]

Dr. Albright: Article VIII, Section 2, in regard to the councilors, received its first reading in 1948 and can be voted upon today. To show how this amendment will work, we have set up the following schedule:

Districts 4 and 9 expire in 1950, and the new councilors can be elected for three years, their terms to expire in 1953.

Districts 2 and 7 also expire in 1953, which means that four councilor terms will expire then, and so four can be nominated.

Districts 5 and 10 expire in 1951. They can be elected for three years, which terms would expire in 1954.

Districts 3 and 8 also expire in 1954, which means that four terms will be expiring then and new councilors could be nominated.

Districts 1, 6 and 11 will expire in 1952, and the new councilors can be elected for a three year term, thus establishing the succession for all councilors on a three year basis.

Mr. Speaker, I *move* the adoption of this Article.

Dr. P. E. Gardner: I *second* the motion.

Dr. Boice: Mr. Speaker, I have always opposed a short term for councilors. A resolution of this type has been presented before. No member of this Society who is elected councilor can make his plans and get acquainted throughout his district and start work in three years. If he knows he probably might not be re-elected in three years, he won't do anything.

I think the term should be as it always has been, five years. If you want your councilors to do good work and become acquainted throughout their districts, to know the doctors upon whom they can depend and to set up leaders in their county societies, they can't do it in three years, and they won't do it if they think probably they will not be re-elected. Personally, I am opposed to any shortening of the term of office of the councilors.

The Speaker: Are there any other remarks?

[*The motion was put to a vote and was carried by a vote of 37 to 18*]

Dr. Albright: Article VIII, Section 3, contains no changes. Article VIII, Section 4, has been added to conform with changes made in the By-laws last year, and our speaker has ruled that that constituted first reading for corresponding changes in the Constitu-

tion. Therefore this section may be voted upon today. It has to do with the filling of a vacancy in the office of president-elect. Mr. Speaker, I *move* the adoption of this new section.

[*The motion was duly seconded, put to a vote and carried.*]

Dr. Albright: In Article IX the Reference Committee recommends that there be no change made, but that it remain as it was in the original version.

The only changes in Article X are in phraseology, and there is no change in Article XI nor in Article XII.

This constitutes the first reading of Article X. I *move* the acceptance of this for the first reading, Mr. Speaker.

Dr. Thielen: I *second* the motion.

[*The motion was put to a vote and carried unanimously.*]

Dr. Albright: We come now to the By-laws.

Chapter I, Section 1: The first reading was on April 23, and it can be voted upon today. We recommend its adoption. I *move* that Section 1, Chapter I, of the By-laws be adopted.

Dr. Braunlech: I *second* the motion.

[*The motion was put to a vote and carried unanimously.*]

Dr. Albright: Sections 2 and 3 contain changes in phraseology only.

Section 4 contains changes in phraseology only, except that four words, "or who counsels with," have been omitted.

Section 5 drops the words "or delegate" in line 4. It says "member or delegate," and every delegate must be a member, so it is superfluous.

Section 6 contains changes in working and phraseology only. All of these were read for the first time on April 23 and can be voted upon today.

I *move* the adoption of these changes, Mr. Speaker.

Dr. Trunnell: I *second* the motion.

[*The motion was put to a vote and carried unanimously.*]

Dr. Albright: Chapter II, Section 1, was changed to read as it does in the revised edition at the last meeting in 1949. No vote is necessary on it today.

Chapter III has been rewritten, was presented on April 23, and can be voted upon today. We recommend, and I *move*, its adoption.

Dr. Boice: I *second* the motion.

[*The motion was put to a vote and carried unanimously.*]

Dr. Albright: Chapter IV, Section 1, is not changed.

Chapter IV, Section 2, was amended to allot one delegate for every 25 members or major portion thereof and was referred to the Reference Committee. Your Committee brings this out without recommendation and asks permission for Dr. Caughlan to speak on this amendment.

Dr. Caughlan: Mr. Speaker and members of the House of Delegates: This amendment, which was

introduced by Dr. Edwards of Pottawattamie County at the unanimous request of that county society, is proposed because of what we think is a discrepancy or an inequality in representation in the House of Delegates.

In our county there are 64 active members. We have two counties that border ours, one of which has four active members and the other seven. This means that if a young man locates in Pottawattamie County and does good work on committees and in various activities of the Society, he has one chance in 64 of getting into the State organization as a delegate and becoming a valuable man for the State Society. If he is located in one of the smaller counties (and there are other counties as small), he has one chance in four of becoming a delegate. In another he has one chance in seven.

In our county we have a peculiar condition because it is large geographically; the largest town, Council Bluffs, is on the extreme western border. All of the delegates, as far as I can find out, since the inception of the Society have been chosen from Council Bluffs. That is not fair.

We have two good towns to the east of us, and the men there have the same attitude toward Pottawattamie County Medical Society that many of the delegates from the smaller counties have toward the State Society, namely, that a certain large group is dominating the Society, that they have the selection of officers, and that the man from the small town does not have an equal opportunity as has the man from the large town. For this reason we feel that if we could increase our delegation, it would be possible to allocate, if a man in the east end of the county deserved it, one delegate for that portion of the county and thus bring about more equal representation.

I have represented two counties in the House of Delegates. Many years ago I was a delegate from Mills County, a very small county. Years later I was a delegate from Pottawattamie County, one of the larger counties. I have frequently heard the statement made by men from the small counties that the Society is dominated by the larger counties and that a man from a small county does not have an opportunity to take part in any discussions because an "inner ring" operates this Society. Since becoming older and becoming acquainted with the officers of the Society, I want to say that nothing could be farther from the truth. Every officer of this Society and everyone of the older delegates appreciates the necessity of interesting young men in the affairs of this Society and bringing them forward to carry on the affairs of the Society.

To prove that statement, that the young man has an equal chance with an older man, I can call attention to the fact that many of our recent presidents have come from single-delegate counties. Dr. Felix Hennessy came from Calmar, a small town in a small county; Dr. Bernard came from Clarion; Dr. Bush came from Story County; and Dr. Winkler from Sibley. If a man in a small town or county

wants to get into the activities of the State Society and become interested, and work, he has equal opportunity with a man from a large county.

The pools of young men have a tendency to congregate in the larger cities and counties. Many of these men who come in are bright young men; many of them are anxious to get into the State Society and work for the Society. I have had a number of young men in my county come to me and say, "How can I get into the active work of the State?" I can only reply, "Work hard and hope that some day you will be elected a delegate, but you possibly will have to wait 64 years." For that reason this amendment has been introduced. I ask for your favorable consideration. Thank you.

I would like to speak also about representation in this proposed amendment. At the present time the House of Delegates consists of 108 delegates from 97 counties or districts. There are 99 counties in Iowa, two of which have merged, so we have 97 county societies rather than 99. The number of delegates from those counties now, from the single county delegates, is 91. Under the new proposal the number of delegates from single counties (single delegate counties) would be 82.

Under the proposed change, if it is voted, there still would be 82 from the single-delegate counties, and 55 from the multiple delegate counties; so the balance of power would still remain with the single delegate counties. I thought you might want to know that before I complete my remarks.

At the session the other day there were 78 delegates and alternates present. This morning I have checked and find there are 61 out of 109 delegates present. We need more delegates present.

This is all I have to say. Thank you very much.

The Speaker: Thank you, Dr. Caughlan. Any other remarks?

Dr. Coffin: I believe, as Dr. Caughlan says, that it would give the young men in the state who want to work in the Society a much better chance. I happen to come from a county with only four. We have a 1 to 4 chance and, as he says, in some of the counties a man has a 1 to 64 chance. That doesn't give the other men who would like to do something for the Society much of a chance.

Dr. J. S. Jackson: I would like to ask why he doesn't make it 5 instead of 25. I think you would get a much larger number of young men as delegates in the Society if you made the number much smaller or maybe make every man a delegate.

Dr. L. C. Pumphrey: Mr. Speaker, as I heard this amendment read at the last meeting, it seemed to provide for one delegate for each 25 members or major fraction thereof. I would like to ask a question on a technicality: Whether a county with less than 13 members would be entitled to a delegate?

The Speaker: Oh, yes.

Dr. Caughlan: Section 2 of Chapter IV, page 9, says, "Each county society holding a charter from the Society, which has made its annual report and paid its assessment as provided in this Constitution

and By-laws, shall be entitled to at least one delegate."

Dr. Pumphrey: Thank you; then it is taken care of outside of the amendment.

Dr. Caughlan: I doubt very much if there is any answer to Dr. Jackson's remarks, Mr. Speaker. We tried to make this a fair representation. I agree that if we set it at five we would have a great many more delegates here. On the other hand, if we made it one for each 500, we wouldn't have any delegates. That is my answer to him.

Dr. Luse: Mr. Speaker, in this setup what is to prevent the large cities from controlling the whole county? For instance, Pottawattamie could have all the delegates from Council Bluffs and none from the other parts of the county. If the change is made, some provision should be made so that the large cities cannot have all the delegates.

Dr. Rohlf: I would like to ask a question: How will this help the small counties if there are only four in them? Giving them 25 isn't going to increase it, anyway. I think you said from 91 to 82 is a gain of 9. Will the gain in 9 be all in the small counties or the big places and further increase the friction and criticism that already has been heard?

Dr. Caughlan: I think it will help the little counties for this reason—and I can speak only about one district which I know well: I know that in our district there is an apathetic condition among the smaller counties. Dr. Edwards, who is a single delegate from our county, has attempted to correct it. Working single-handed he has been handicapped and has been unable to create the interest necessary or to get the delegates together to create more interest in the State Society. I think he would be helped by the addition of two more delegates from Pottawattamie County. Three men can do more than one. I think they could go out and do missionary work and stir up the interest of the smaller counties and make the delegates from these counties better delegates. Does that answer your question?

Dr. Rohlf: No, not exactly.

Dr. Caughlan: Did you want to know how it would help the small counties?

Dr. Rohlf: How many additional delegates will go to small counties?

Dr. Caughlan: Eighty-two delegates still will come from single delegate counties; 55 will come from large counties. In other words, the balance of power still will remain with the smaller counties. If they team up against the larger counties they always can control the State Society. Does that answer your question?

Dr. Thielen: You say there is one from Council Bluffs and none from the rest of the county?

Dr. Caughlan: That's right.

Dr. Thielen: In your proposal there would be three from Council Bluffs and still none from the rest of the county. How does it help the rest of the county?

Dr. Caughlan: We could tell those people, "If you come to meetings you will have a chance to get

in as delegates." We can hardly tell them that now.

Dr. B. T. Whitaker: How many counties would be directly affected by this?

Dr. Caughlan: Fifteen would be directly affected. Blackhawk County would be increased from two to four, Cerro Gordo from one to two, Clinton one to two, Des Moines one to two, Dubuque one to three, Johnson three to six, Lee one to two, Lyon two to four, Marshall one to two, Polk six to thirteen, Scott two to four, Wapello one to two, Webster one to two, and Woodbury two to four.

Dr. Boice: Dr. Caughlan hasn't given us any assurance whatever that additional delegates would be selected from the country towns. If you want to get the young men outside of the towns, specify so. There isn't anything in the By-laws now to prevent these larger counties from picking a delegate from a small town. The entire thing is discriminatory.

Dr. Howell: Our delegate is from a small town. Dr. Henry is from a crossroads town, and it probably has 100 people. We are well satisfied with his services.

Dr. Henry: I am asking for information: What does the Constitution of the American Medical Association have to say concerning the state delegate representation? It has to be the same all over the country.

Miss McCord: It is based on the entire membership, not on the delegates.

Dr. Henry: Mr. Speaker, at the turn of the century when this transformation took place, in 1903, in this State at that time there were only 37 counties represented in the State Society by vote, giving the delegate a right to vote.

My understanding always was that when the change was made it was specified that one program or one formula for the turnover would have to be adopted by all the states in the Union. I am asking for information; I don't know for sure.

The Speaker: I don't know whether the American Medical Association set that or not.

Dr. Caughlan: They have nothing to say about that. They can't set it.

Dr. C. V. Hamilton: I am a babe in the woods as far as this matter of politics is concerned. I come from a small county. I thought the American way of doing things was equal representation. I can't understand why we should be afraid of the large counties. I live next door to Cerro Gordo County. I don't believe another delegate from their county would be affected or would affect us at all. I think it would be a good measure.

Dr. Caughlan: I am chairman of the Committee, and I can make a motion, so I *move* the adoption of this portion of the report.

Dr. Braunlich: I *second* it.

[*The motion was put to a vote and was carried by a vote of 37 to 21.*]

The Speaker: The Chair rules that the resolution is adopted.

Dr. Albright: Coming back to Chapter IV, Sections 3, 4, 5 and 6 contain changes in wording only

and are eligible to be voted upon because they were given first reading on April 23. We recommend and I *move* their adoption.

Dr. Boice: I *second* the motion.

[*The motion was put to a vote and carried unanimously.*]

Dr. Albright Chapter VI, Section 1, was presented for first reading on April 23 and can be voted upon today. The only change is in the elimination of the phrase, "and of the House of Delegates in the absence of the Speaker of the House," and minor changes in phrasing. We recommend its adoption, and I *so move*.

[*The motion was seconded, put to a vote and carried unanimously.*]

Dr. Albright: Section 4 of Chapter VI, page 13, line 45, has a change as follows, fixing the secretary's bond at \$5,000: "He shall give bond in such sum as shall be determined by the Board of Trustees." This was read for the first time on April 23 and can be voted upon today. We recommend its adoption, and I *so move*, Mr. Speaker.

[*The motion was seconded, put to a vote and carried unanimously.*]

Dr. Albright: In Section 5, page 14 of Chapter VI, there are some deletions from the proposed revised copy, as follows: The first sentence shall read, "The Board of Trustees, the Secretary of the Society, and the Editor of the Journal shall constitute the Committee on Publications."

The second and third sentences are left unchanged in the revised copy, but the fourth sentence shall read as follows: "The Board of Trustees shall appoint an Editor of the Journal of the State Medical Society." The only change there is to change the word "It" to "the Board of Trustees."

These changes make the revised edition comparable to the old By-law except for changes in phraseology. There is no change in meaning nor authority, and if it is the wish of the House to accept the Reference Committee's recommendation as above, then this Section can be voted upon today, because it was given its first reading April 23.

We recommend and I *move* its adoption, Mr. Speaker.

[*The motion was seconded, put to a vote and carried unanimously.*]

Dr. Albright: Section 6: Your Reference Committee has added the following sentence to Section 6, outlining the duties of the Speaker, as follows: "He shall appoint such reference committees as are deemed necessary to facilitate the business of the House of Delegates." We recommend the adoption of this Section as amended by the Reference Committee.

Both Sections 6 and 7 were read April 23 and therefore are eligible for vote today. We recommend their adoption, and I *so move*, Mr. Speaker.

Dr. Boice: I *second* the motion.

Dr. Larimer: Who is going to be the speaker of the House, an appointed officer or someone elected?

Dr. Albright: The speaker is elected.

Dr. Caughlan: Many times the presidents-elect have not been very good parliamentarians, and I think the idea is to elect a man who will qualify himself to pass on many of the questions that arise in the course of discussions in the House of Delegates, and to rule correctly on them. That is quite a specialty in itself. I think this is a fine proposal and will facilitate the discussions and proceedings of the House of Delegates.

Dr. Albright: Pardon me. I believe it was the intention of the Committee on Constitution and By-laws that if this proves satisfactory, the term of the speaker should be increased to a longer period, so that once he was in he could become acquainted with the work and could carry on for two or three years. One year is really a tryout period.

The Speaker: Is there any further discussion? Did you move the adoption of this?

Dr. Albright: I so *move* the adoption of both Sections 6 and 7.

[*The motion was put to a vote and carried unanimously.*]

Dr. Albright: Chapter VII, Section 1: Your Committee *moves* deletion of the following: "The Chairman and the Secretary of the Council, together with the Board of Trustees, shall provide for and superintend the publication of the Journal of the Iowa State Medical Society. It shall collaborate fully in connection with all phases of this publication as set forth in Section 4 of Chapter IX." This was presented April 23 and can be voted upon today. We recommend its adoption with the deletion noted, and I so *move*.

Dr. Young: I *second* the motion.

Dr. Albright: That returns the control of the Journal to the Board of Trustees, where it was before.

[*The motion was put to a vote and carried unanimously.*]

Dr. Albright: Chapter VIII, Section 2: If a Grievance Committee is voted today, the following amendments should be made:

First, amend Section 2 of Chapter VIII, page 16, tenth line of the old mimeographed By-laws, by inserting after the word "Society" the following: "before the Grievance Committee."

In the next to the last line of the same Section of the old By-laws, change the period following "Councilor" to a comma, and add "or charges filed against a member or county society by the Grievance Committee." Your Committee recommends the adoption of these amendments which were read April 23 and are to be voted upon today. I *move* the adoption of this recommendation.

Dr. Kersten: I *second* the motion.

The Speaker: Are there any questions?

Dr. W. H. Longworth: Did you say "Grievance Committee" are the only words added?

Miss McCord: Yes, ahead of "or otherwise."

[*The motion was put to a vote and carried unanimously.*]

Dr. Albright: Chapter IX, Section 1: Your Reference Committee recommends that there be no change in the number of members of the Legislative Committee; and since it has recommended that the former makeup of the Publication Committee be retained, the number of members on it should remain at five instead of six. Therefore, no change is necessary in these lines.

Your Committee recommends that the Committee on Finance be dropped. This was read April 23 and is eligible for vote today. I *move* the adoption of that, Mr. Speaker.

Dr. Gardner: I *second* the motion.

The Speaker: I think you had better explain to some of the members about why the Finance Committee is dropped, if you will, please.

Dr. Albright: The Finance Committee is dropped because the policy of the Board of Trustees now is to employ a group of certified public accountants to go over the records, and the Finance Committee therefore no longer has any function.

The Speaker: In other words, we have grown out of the horse and buggy days.

[*The motion was put to a vote and carried unanimously.*]

Dr. Albright: Your Reference Committee also recommends that the name of the Committee on Medical Service and Public Relations be changed by dropping or eliminating the words "Medical Service and," so that it will read, "Committee on Public Relations."

Since this is the first reading of this amendment, it must lie over until the next meeting of the House and cannot be voted upon today. This is the first reading of that amendment, and therefore it will have to lie over until the next meeting of the House of Delegates, which will be the first meeting of 1951, I presume, unless there is a called meeting.

Your Reference Committee recommends that the report of the Committee appointed to draw up rules and regulations for a Grievance Committee be approved, and that the changes necessary in Section 1, which were read April 23 and can be voted upon today, be approved. Dr. Braunlich, that adds that Committee to Section 1. I *move* its adoption.

[*The motion was seconded, put to a vote and carried unanimously.*]

Dr. Albright: Your Committee further recommends, since Section 10 has been dropped, that the present Section 11 become Section 10 and that it be amended to read as follows:

Section 11, Chapter IX, now becomes Section 10 and reads as follows: "Section 10: The Public Relations Committee shall consist of a minimum of seven members including the Chairman. It shall have referred to it all matters arising in the State or nation which are relative to medical practice outside the field of scientific medicine and for the promotion of better physician and public relationships particularly in the fields of medical insurance, medical economics, medical services, veterans' affairs, public health, public information, interprofessional

relationships, and any such other considerations as would properly come under the head of public relations which are not already specifically assigned to some other committee."

Since this is hereby presented for first reading, it cannot be voted upon until the next session of the House.

The present Section 12 then will become Section 11, and Section 12 shall be the section outlining the Grievance Committee, which was given its first reading April 23.

Your Reference Committee recommends the adoption of these sections. I so *move*, Mr. Speaker.

[The motion was seconded, put to a vote and was carried unanimously.]

Dr. Albright: Going back to page 20 in your Constitution and By-laws there is one other item. Section 9, second paragraph, is a comment which has nothing to do with the action of the House, but the last sentence in that section was presented April 23 and should be voted upon at this time:

"Opportunities for members other than the Committee to present such amendments may be given by vote of the House of Delegates."

By way of explanation, it was felt by your Reference Committee that that opportunity should be given by a vote of the House of Delegates; that is, John Brown could not get up and propose an amendment on the floor without first getting the consent by motion of the House of Delegates. We therefore *move* its adoption.

[The motion was seconded, put to a vote and carried unanimously.]

Dr. Albright: My attention has been called to one other omission which I thought had been taken care of. On page 18 of your Constitution and By-laws, Section 4, as printed in your copy, the editor of the JOURNAL was inadvertently omitted, and it was read that way at our April 23 meeting, but the Reference Committee has recommended that this first sentence read as follows:

"The Committee on Publication shall consist of the Board of Trustees, the Editor of the JOURNAL ex officio, as set forth in Chapter VI of the By-laws, and the Secretary of the Society."

Dr. Caughlan: Please read that section again.

Dr. Albright: Section 4, Chapter IX, page 18: "The Committee on Publication shall consist of the Board of Trustees, the Editor of the JOURNAL ex officio, and the Secretary of the Society, as set forth in Chapter VI, Section 5 of the By-laws."

I *move* the adoption of this Section 4 of Chapter IX.

[The motion was seconded, put to a vote and carried unanimously.]

Dr. Caughlan: Mr. Speaker, I *move* the adoption of the report of the Reference Committee as a whole.

Dr. Young: I *second* the motion.

[The motion was put to a vote and carried unanimously.]

Dr. Caughlan: May I say one more word, Mr. Speaker? Dr. Albright has done a monumental job.

He has worked many hours and has brought in a complete report. He has distributed mimeographed copies to the House of Delegates, so that everyone has kept abreast of what he was reading. I think he is entitled to a rising vote of thanks from the House of Delegates for his work.

[The audience arose and applauded.]

The Speaker: Thank you very much, Dr. Albright.

Dr. Caughlan: There seems to be some question about this matter of these Reference Committees. They are formed for the purpose of considering the various matters that come up and of giving members of the House of Delegates and other interested parties an opportunity to appear before the committees to voice suggestions, to offer amendments and to criticize. It is hoped that in the future this method of handling the business of the House of Delegates will facilitate its sessions. Finally, Mr. Speaker, I *move* that the Reference Committee on Constitution and By-laws be discharged.

[The motion was seconded, put to a vote and carried unanimously.]

The Speaker: We are ready now for the report of the Reference Committee on Reports of Officers. Dr. Kersten, Chairman.

Dr. Kersten: Mr. Speaker and members of the House of Delegates, there were three matters referred to this Reference Committee, the first of which was the supplemental report of the Board of Trustees:

"Resolved, That the objectives and functions of any organization concerned with the health of the citizens of this State, which requests cooperation of the members of this Society, shall be studied carefully by the Council; be it further

"Resolved, That the results of these studies shall be made available to the membership."

Your Reference Committee recommends approval of the Trustees' resolution regarding the American Heart Association and all other similar organizations.

Further, your Reference Committee commends the Trustees in their engagement of Dr. R. D. Bernard as general manager and approves the remainder of their supplemental report.

I *move* adoption, Mr. Speaker.

[The motion was seconded, put to a vote and carried unanimously.]

Dr. Kersten: The second matter referred to the Reference Committee was that of training for atomic warfare. This Reference Committee approves the recommendations by Dr. Harold J. Peggs and recommends that it be referred to the Committee on National Emergency Medical Service for consideration and action. I *move* adoption of this portion of our report.

The Speaker: Dr. Bernard has the floor.

Dr. R. D. Bernard: Thank you, gentlemen. I want you to understand this matter, because it is very "hot." I attended a meeting in Chicago a few months ago, at which time the AMA Council on National Emergency Medical Service was discussing

this entire problem of what to do, how to organize the country, and so on. Dr. Sargent of Milwaukee is the chairman and is eminently fitted for the job. Nothing was done at that meeting because, in the first place, the men who attended it were strangers to the organization and strangers to each other, and they didn't have enough information.

When this request came to us, we sent Dr. Peggs to the meeting where scientists reported on atomic warfare and what-have-you. They suggested that a man be appointed from each county and be indoctrinated in a two day course in the various phases of this emergency.

In the first place, is it necessary? We have to go along with the AMA, but do you understand from the action of this Emergency Committee that we must get busy for atomic warfare now? Is this a scare, or what is it? I think we should think it over consistently and carefully. That is my first reaction.

My second reaction is that if we are going to bring in a man from each county for two days, it is going to cost a lot of money. We will need scientists to do the work. That should be considered.

There is another important phase of this, and that is an emergency setup for surgical and medical care in catastrophes. If any of you heard the men from Sioux City telling how they handled the Swift explosion casualties, it was an eye-opener.

We need an emergency setup right now supervised by the State Medical Society. The matter should be studied. I don't know what you will want to do with this over-all setup. My personal reaction would be to just sit tight on it for a time.

Dr. Braunlich: We have merely approved of the final sentence, and say that it should be referred to the Committee on National Emergency Medical Service for action. That committee can do with it as it sees fit. Suppose something comes up within the next month or so and this thing gets hotter, and we decide that instead of it being just a scare it is actually a reality? Then this Committee will have power to act without calling in the House. That is what this recommendation says.

[The motion was seconded, put to a vote and carried unanimously.]

Dr. Kersten: The third matter brought before this Reference Committee was the matter presented by the delegate from Fayette County. The resolution was "that all county medical societies shall refer all public health activities, as to the hiring of doctors and nurses for public health, and the passage of all laws, to the Iowa State Board of Health, and keep same under the control of the Iowa State Medical Society and not under the control of the Community Health Council. We petition that the State officers refer this to proper committee for further study."

The action of our Reference Committee is this: Your Reference Committee recommends acceptance of this resolution and its referral to the Council or

proper committee. That really is taken care of under the first resolution.

I move the adoption of this portion of the report.
[The motion was seconded, put to a vote and carried unanimously.]

Dr. Kersten: I now move adoption of the report as a whole.

[The motion was seconded, put to a vote and carried unanimously.]

The Speaker: Dr. Kersten, we thank you and your Reference Committee very much. The next order of business is the report of the Reference Committee on Medical Education. Dr. Farnsworth, chairman.

Dr. Farnsworth: Mr. Speaker and gentlemen of the House of Delegates, your Reference Committee on Medical Education and Hospitals met Monday afternoon. We had several delegations visit with us and bring in suggestions, and the most satisfactory of all was the delegation from the State University Medical School.

We have approved in principle the report of Dr. Scanlon and his Committee, with the exception of the resolution. We have substituted one which we think fits the situation a little better. If you like, I will read the original resolution, and then read the resolution we have submitted and give you our reasons for the substitution.

The resolution originally submitted is this: "Whereas, For several years the Committee on Medical Education and Hospitals has worked diligently trying to establish a better relationship with the State University of Iowa, and

"Whereas, After many meetings with committees from the faculty and with the President of the University the desired progress has not been made; therefore, be it

"Resolved, That for the benefit of the public, the medical school and the medical profession, the Iowa State Medical Society requests the Chairman of the State Board of Education to appoint a committee of his Board who, with him will meet with the highest ranking officers of the Medical Society and the President of the University, the purpose of the meeting being to see if some common ground cannot be found to serve as a basis for closer relationship between the faculty and the medical profession, in order to achieve a clearer understanding of the medical needs of the State, the adequacy and type of doctors for service to the people of Iowa."

It seems that in the past, somehow or other, there has been a "roadblock" between the present medical school and the Board of Education. We offer this resolution which has the approval of the various people concerned:

"Whereas, For several years our Committee on Medical Education and Hospitals has worked diligently trying to establish a better relationship with the State University of Iowa, and

"Whereas, After many meetings with committees from the faculty and with the President of the University the desired progress has not been made; therefore, be it

"Resolved, That for the benefit of the public, the Medical School and the medical profession, the Iowa State Medical Society requests the Chairman of the State Board of Education to appoint a committee of his Board, who with him would meet with a committee from this Society consisting of the President, President-elect, Chairman of the Board of Trustees, and Chairman of the Committee on Medical Education and Hospitals, the purpose of this meeting being to see if some common ground cannot be found as a basis for closer relationship between the faculty and medical profession in order to achieve a clearer understanding of the medical needs of the State, the adequacy of the number and type of doctors, and their location for the service of the people of Iowa."

The idea was that we should go to the State Board of Education and say, "Here is the problem, and this is what we want," and work out the foundation. Then we might request that a second meeting be held including the President and representatives from the State University Medical School. Mr. Speaker, I *move* the adoption of this resolution.

Dr. Ward: I *second* the motion.

Dr. Wolfe: Dr. Farnsworth, would you mind reading once again the members who would constitute that committee?

Dr. Farnsworth: The President, the President-elect, the Chairman of the Board of Trustees, and the Chairman of the Committee on Medical Education and Hospitals.

Dr. Kersten: Is it proper to ask if any further action has been taken to secure the appointment of a doctor on the State Board of Education?

The Speaker: It is proper to ask, but I can't answer.

Dr. Kersten: Some recommendation was made by Dr. Scanlon's Committee at our last meeting, and I wondered if any action had been taken since then.

The Speaker: I have heard of none.

Dr. Farnsworth: I can't answer you, either.

[*The motion was put to a vote and carried unanimously.*]

Dr. Farnsworth: The second matter that was brought before this Reference Committee had to do with the location of displaced physicians in the State of Iowa. We in the Committee wished we didn't have to contend with the problem, but from a humanitarian standpoint we can't help ourselves. We have tried to erect safeguards so that the doctors who do come in will have to compete on the same level as the doctors in the State who are regular doctors here.

We have adopted this resolution, to be attached to this letter and outline of the State Board of Medical Examiners: "This Reference Committee recommends the adoption of the resolution of the Iowa State Medical Society, with the amendment that the applicants to be chosen by the Iowa State Board of Medical Examiners be graduates of schools approved by the Council on Medical Education of

the American Medical Association." I think the State Board of Health welcomes this safeguard.

I *move* the adoption of this part of the report.

[*The motion was seconded, put to a vote and carried unanimously.*]

Dr. Farnsworth: I *move* that the report of the Reference Committee on Medical Education and Hospitals be approved as a whole.

Dr. Ward: I *second* the motion.

[*The motion was put to a vote and carried unanimously.*]

Dr. Farnsworth: I *move* that the special Reference Committee on Medical Education and Hospitals, having fulfilled its mission at this meeting, be discharged.

[*The motion was seconded, put to a vote and carried unanimously.*]

Dr. Trunnell: In conjunction with the report that has just been read, and due to the fact that probably for the first time the AMA has examined foreign schools and has given a definite report on their qualifications, it seems appropriate and apropos at this time for the House to consider a statement of policy to guide the Board of Medical Examiners and the State Board of Control on this matter of bringing displaced physicians into the State.

For this reason the delegate from Pocahontas County and the delegates from Black Hawk County Medical Societies wish to present this statement and resolution:

Whereas, For the past 100 years there has been a steady improvement of the standards of medical training and practice in the State of Iowa, and

Whereas, All medical teaching centers throughout the United States have finally attained a high level of medical standards, and

Whereas, Many foreign medical schools by political interference have allowed their standards to become greatly inferior; therefore be it

Resolved, That the Iowa State Medical Society shall continue its efforts to maintain and improve the standards of medical education and practice, deeming it a dangerous retrogression to permit individuals of unproven qualifications to practice in the State institutions, and asserting that there must be no difference in the level of medical practice in the communities of the State of Iowa and her institutions; and be it further

Resolved, That such physicians entering this State as candidates for licensure shall be graduates of schools, foreign or domestic, approved by the Council on Medical Education and Hospitals of the American Medical Association.

Mr. Speaker, I *move* that this resolution be adopted.

Dr. Thielen: I *second* the motion.

Dr. Rohlf: There is something said about their being citizens. Has it been settled whether or not the applicants have to be citizens before they take the examination?

Dr. Farnsworth: Before they can have a permanent license they have to attain citizenship.

Dr. Howell: As I understand it from Dr. Biering's talk (and I also heard the director of the institution in Mount Pleasant say it), there is going to be a temporary arrangement for admitting displaced physicians. Does this resolution prohibit that temporary arrangement?

Dr. Trunnell: In Iowa they cannot issue temporary licenses. If these men are brought in here to work in State institutions, they are going to have to work in those institutions until they become full citizens. They cannot be licensed, as I understand it, until they are full citizens.

The Speaker: Are there further remarks or questions?

[The motion was put to a vote and carried unanimously.]

The Speaker: Now we come to suggesting a successor to Dr. Johnson of Council Bluffs on the Board of Medical Examiners. The Governor requests that there be from three to five names presented to him.

Dr. Farnsworth: I would like to suggest the name of Dr. Larimer of Sioux City.

Dr. Kersten: I suggest Dr. A. A. Schultz of Fort Dodge.

Dr. Ward: I would like to suggest the name of Dr. Farnsworth.

Dr. C. W. Losh: Dr. Harry C. Collins of Des Moines.

Dr. Ober: I would like to suggest Dr. George B. Crow of Burlington.

The Speaker: That is sufficient. May we have a motion to approve these five men?

Dr. Losh: I so move.

[The motion was seconded, put to a vote and carried unanimously.]

The Speaker: I will ask Dr. Phillips to make an announcement at this time, please.

The Secretary: Mr. Speaker and members of the House, I have been asked to read a resolution from the Iowa X-Ray Club in regard to the so-called Hess report:

"Whereas, The House of Delegates of the American Medical Association, at its meeting in Atlantic City in June 1949, adopted the report of the Committee of the Board of Trustees on the Corporate Practice of Medicine (Hess Report), and

"Whereas, One part of this report states that it is illegal, with some exceptions, and unethical for any lay corporation to practice medicine and to furnish medical services for a professional fee which shall be so divided as to produce profit for a lay employer, either individual or institutional, including hospitals and medical schools, and

"Whereas, another provision of the Hess report provides that each medical society appoint a Committee on Hospital and Professional Relations, which shall receive complaints from any physician, hospital, medical organization or any other interested person or group with reference to professional or economic relations existing between doctors of med-

icine and hospitals or medical schools; it then provides that such controversies shall be investigated and acted upon in accordance with existing modes of procedure, with the further statement that when a matter reaches the Judicial Council of the American Medical Association, that Council, if a hospital is found guilty, shall withdraw AMA's approval of that institution; now, therefore, be it

"Resolved, That the Iowa X-Ray Club, meeting in Burlington, Iowa, on April 24, 1950, goes on record as being in favor of the Hess report in its entirety and its strict enforcement; and be it further

"Resolved, That this action of the Iowa X-Ray Club be transmitted at once to the Iowa State Medical Society, requesting the Iowa State Medical Society to set up a Committee on Hospital and Professional Relations; and, further, that the Iowa State Medical Society be requested to support the Iowa X-Ray Club in its position as favoring the Hess report; and that the delegates of the Iowa State Medical Society to the House of Delegates of the AMA meeting in San Francisco in June, 1950, be instructed in favor of the Hess report."

Mr. Speaker, I move the adoption of that resolution.

[The motion was seconded, put to a vote and carried unanimously.]

The Speaker: Who will appoint that Committee? Inasmuch as it requires me to appoint the Committee, I will appoint the Committee that did so ably on the matter of medical education and hospitals—Drs. Farnsworth, Sayre and Ward. Is there other new business?

Dr. Housholder: This is a resolution concerning endorsement of blood banking agencies and associations:

"Whereas, The Iowa State Medical Society is aware of the dangers, technicalities and complexities involved in the procurement and processing and transfusion of blood, including such problems as various transfusion incompatibilities due to the known antigenic complexities of human blood, the danger of transferring virus diseases, particularly homologous serum jaundice and the possible spreading of malaria, syphilis and various other serious infectious diseases, all of which are a part of blood banking, and

"Whereas, These problems require handling by competent persons under the responsible control of local independent nonprofit institutions, sponsored by organized medicine, as represented by county medical societies, and

"Whereas, Blood banking is a highly specialized branch of medicine, requiring that related scientific services follow the blood and that the blood bank must maintain a close relationship with both patient and physician, and

"Whereas, The scientific service and research necessary to maintain blood banking on a high and competent medical level cannot be achieved if research is dominated or directed by any national agency with central control, and

"Whereas, Blood banking is a community function necessary for and maintained by the local medical profession and hospitals of a community, and

"Whereas, Blood banking cannot exist without medical and related scientific consultation, and

"Whereas, It has been brought to the attention of this Society that on November 19, 1947, the American Association of Blood Banks was formed, and

"Whereas, The purposes of the American Association of Blood Banks are: (1) To promote and foster the exchange of ideas and materials, and the dissemination of information relating to blood banking and its technical methodology by education, publicity and research;

"(2) To foster and plan for cooperation in times of disaster;

"(3) To function as a clearinghouse on questions relating to the training of personnel common to such institutions;

"(4) To keep currently aware of and encourage high standards of service;

"(5) To promote and foster and aid and encourage the extension of similar services throughout the United States and its territories; therefore, be it

"Resolved, That, first, the Iowa State Medical Society endorses the program of the American Association of Blood Banks and the principle of local medical control of policies and operation of blood banking; second, that this Society urges the county medical societies of this state to aid and encourage the establishment of adequate transfusion services through the setting up of additional blood centers, blood banks and affiliated substations, as required to make available adequate supplies of blood and blood derivatives throughout the state; third, that this Society goes on record as opposing control by centralized national agencies or interference with the orderly development of transfusion services and new improved technics and knowledge under local initiative."

I move the adoption of this, Mr. Speaker.

Dr. Boice: I second the motion.

Dr. Braunlich: This matter has been before the House of Delegates of the AMA for at least five or six years, and I think a pretty good settlement has been reached. I believe the local communities should be permitted to act on it the way they desire. In other words, if they want to cooperate with the Red Cross, or let the Red Cross do the work in certain places, I don't see why they shouldn't.

Dr. F. C. Coleman: It doesn't seem to me this resolution precludes cooperation with the Red Cross and the establishment of banks at the community level if a community wants to take part in such a program. In setting up blood banks the Red Cross states that the approval of the county medical society must be secured before any action is taken.

Furthermore, the blood bank is set up under the direction of the county medical society, so this resolution does not interfere with the thing on a local level in case the county wants to do it.

As I see it, it takes a rather firm stand on the establishment of a national blood banking organization, and in this blood banking program of the Red Cross there is a lot more than appears on the surface. This is not my resolution; I was not aware of it.

Dr. Housholder: This resolution was handed to me by the delegate from Dubuque County.

Dr. Conzett: Mr. Speaker, this was submitted to us by our local pathologist for presentation to this group. It so happens that this plan is now in effect in Dubuque County and is working better than the plan sponsored by the Red Cross. I think its presentation was made only so that the State Society might give the same approval that has been given by other state societies.

Very possibly you know that some state societies already have approved this; I know Indiana is one. It gives them a little greater leverage, possibly, to have these blood banks established locally but does not eliminate the Red Cross, as I understand it.

Dr. Coleman: That is correct. The American Association of Blood Banks is a well recognized organization. It has received recognition from the American Society of Clinical Pathologists and other groups, and as far as I know most of the hospitals in the State that have blood banks are members of the American Association of Blood Banks. Dr. Thorsness, the pathologist in Dubuque, is the state councilor for the American Association of Blood Banks, and his position as councilor has been recognized by the Iowa Association of Pathologists. I see no objection to the resolution nor to the stand we take.

Dr. Oscar Alden: That resolution smells of a joker in the hole. The small towns that have no pathological service have to rely on getting blood from the Red Cross blood bank. We have had that service for the past three or four years, and it has been a lifesaving proposition in our county. If you want to fight against the Red Cross, call a spade a spade.

Dr. Housholder: I didn't get the impression that it fights the Red Cross. The resolution endorses the AMA's program. I happen to live in a small county, but we have a hospital with good laboratory facilities. We have arranged for and have used a selected group who have been thoroughly tested and typed. We have used them locally for our own use, and it has been satisfactory.

Dr. Braunlich: I don't object to this at all except that final sentence.

Dr. Trunnell: In the resolution it says something about local control. Change that to local medical control.

Dr. Conzett: In answer to Dr. Alden, the thinking on this is not to buck the Red Cross as such, but more or less to prevent the further inroad of lay people in controlling medical problems. That is exactly what is happening. We admit the Red Cross did a marvelous job during the war in the distribution of blood. We all recognize that. What we

would like to do in this resolution, I believe, is to keep that control in the hands of the medical profession. That is the reason for it.

Dr. Housholder: Dr. Coleman, what was your change in wording?

Dr. Coleman: "The principle of local medical control of policies."

[*The motion was put to a vote and carried unanimously.*]

The Speaker: Is there any other new business?

Dr. Farnsworth: It might be well to instruct the president and secretary to send a resolution of condolence and sympathy to Dr. Hill's family.

The Speaker: The secretary already has taken care of that.

Dr. Bush: Mr. Speaker, I don't believe there has been a motion to thank the Burlington people for their splendid hospitality which has been extended to us during this meeting. This hotel also has afforded us marvelous facilities and fine food, and our expression of thanks should include the Committee that has done such a fine job. I so move.

[*The motion was seconded, put to a vote, and carried unanimously.*]

The Speaker: We will extend to the Des Moines County Medical Society, the Burlington Hotel, the Committee on Arrangements, and all others a vote of thanks for the wonderful time we have had. Is there anything else under new business?

Dr. S. C. Ware: I think in all these various committees that we have—tuberculosis, orthopedics, heart infantile paralysis, cancer, and so on—we should strive for some consolidation. Their drives become rather tedious in some localities. I think we are defeating our own purpose by dividing the anatomy which we start out to treat as a whole.

Dr. Wolfe: Mr. Speaker, I believe we have a resolution in connection with the Iowa Heart Association that fulfills the requirements.

The Speaker: Yes, it takes care of that, Dr. Ware. It goes to the Council.

Dr. R. T. Day: In Franklin County our Community Chest program tried to include all organizations—Red Cross, Cancer, Polio, etc.—and to give them all part of the "take." A good many of these organizations refused to cooperate, and it was the unofficial opinion of the Franklin County Medical Society that we supported the Community Chest. If the other organizations didn't want to get in on it, we would let them go.

The Speaker: Any other new business?

We are now at the point in the program where the House is to decide upon the meeting place for 1952.

Dr. Boice: Mr. Speaker, I move that we go to Des Moines in 1952.

[*The motion was seconded, put to a vote, and carried unanimously.*]

The Speaker: The Committee on Arrangements will have to decide the time with the hotel. I will now announce the various committee appointments for the year, for your approval.

CONSTITUTION AND BY-LAWS

G. C. Albright.....	Iowa City
J. D. Conner.....	Nevada
H. C. Scharnweber.....	Boone

LEGISLATIVE

F. C. Coleman.....	Des Moines
J. W. Billingsley.....	Newton
R. J. Steves.....	Des Moines
T. F. Thornton.....	Waterloo
Allan B. Phillips.....	Des Moines

MEDICAL EDUCATION AND HOSPITALS

G. H. Scanlon.....	Iowa City
F. H. Entz.....	Waterloo
Lee F. Hill.....	Des Moines

MEDICOLEGAL

F. A. Ely.....	Des Moines
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MEDICAL SERVICE AND PUBLIC RELATIONS

Fred Sternagel.....	West Des Moines
Martin I. Olsen.....	Des Moines
R. D. Bernard.....	Clarion
C. T. Maxwell.....	Sioux City
R. C. Gutch.....	Chariton
H. E. Stroy.....	Osceola
C. A. Nicoll.....	Panora
J. E. Reeder.....	Sioux City

SPECIAL COMMITTEES

BALDRIDGE-BEYE MEMORIAL

J. W. Agnew, Chairman.....	Davenport
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CANCER

F. H. Beaumont.....	Council Bluffs
D. F. Ward.....	Dubuque
A. W. Erskine.....	Cedar Rapids
E. G. Zimmerer.....	Des Moines
H. W. Morgan.....	Mason City
V. W. Petersen.....	Clinton
W. J. Balzer.....	Davenport
S. F. Singer.....	Ottumwa
A. L. Jenks.....	Des Moines
J. B. Thielen.....	Fonda

FRACTURE

F. G. Ober.....	Burlington
C. O. Adams.....	Mason City
L. R. Martin.....	Council Bluffs
D. C. Wirtz.....	Des Moines
J. W. Graham.....	Sioux City

HISTORICAL

W. L. Bierring.....	Des Moines
Jeannette Dean Throckmorton.....	Des Moines
C. A. Henry.....	Farson
J. T. McClintock.....	Iowa City
C. L. Jones.....	Gilmore City
E. M. George.....	Des Moines
C. A. Boice.....	Washington

INDUSTRIAL HEALTH

H. H. Smead.....	Des Moines
Van Robinson.....	Des Moines
R. F. Frech.....	Newton
R. M. Wray.....	Cedar Rapids
L. J. Miltner.....	Davenport
C. J. Lohmann.....	Burlington
E. L. Rohlf, Jr.....	Sioux City
E. E. Morgan.....	Sioux City

HEART

W. B. Bean.....	Iowa City
F. H. Coulson.....	Burlington
J. S. McQuiston.....	Cedar Rapids

MATERNAL AND CHILD HEALTH

C. P. Phillips.....	Muscatine
R. M. Collins.....	Council Bluffs
H. A. Weis.....	Davenport
H. E. Farnsworth.....	Storm Lake
R. H. McBride.....	Sioux City
Lee F. Hill.....	Des Moines
C. A. Hanson.....	Waterloo
R. O. Hughes.....	Ottumwa

SCIENTIFIC EXHIBITS

E. A. Fullgrabe.....	Sioux City
R. H. Flocks.....	Iowa City
J. J. Rowe.....	Waterloo

NATIONAL EMERGENCY MEDICAL SERVICE

J. W. Ferguson.....	Newton
H. J. Peggs.....	Des Moines
F. M. Burgeson.....	Des Moines
E. M. Honke.....	Sioux City

SPEAKERS' BUREAU

Harold Margulies.....	Des Moines
J. I. Marker.....	Davenport
G. F. Keohen.....	Dubuque
C. F. Watts.....	Cedar Rapids
A. D. Woods.....	State Center
Charlotte Fisk.....	Des Moines
R. M. Wolfe.....	Marshalltown

TUBERCULOSIS

R. J. Harrington.....	Sioux City
J. Carl Painter.....	Dubuque
L. J. Galinsky.....	Des Moines
R. E. Smiley.....	Mason City
John C. Parsons.....	Des Moines
William Spear.....	Oakdale
R. C. Miller.....	Waterloo

GENERAL PRACTICE

C. A. Nicoll.....	Panora
J. S. Jackson.....	Mount Pleasant
D. G. Sattler.....	Kalona
E. E. Gamet.....	Lamoni
D. S. Egbert.....	Fort Dodge
C. V. Hamilton.....	Garner

SECTION CHAIRMEN

MEDICINE—E. B. Floersch, Council Bluffs

SURGERY—E. L. Rohlf, Jr., Waterloo

EENT—J. E. Dvorak, Sioux City

ORTHOPEDICS—J. W. Graham, Sioux City

OBSTETRICS—E. E. Magee, Waterloo

PEDIATRICS—H. E. Farnsworth, Storm Lake

We have a request from the University saying they want the Society to appoint a member to act with one of their Advisory Committees. I will appoint Dr. R. M. Wray of Cedar Rapids on that Committee.

Dr. Trunnell: I *move* that these committee appointments be approved.

[*The motion was seconded, put to a vote and carried unanimously.*]

The Speaker: We are now ready to announce the members of the Grievance Committee: Dr. Beddoes, Oelwein; Dr. Swanson, Mason City; Dr. Ward, Arnolds Park; Dr. McHugh, Sioux City; Dr. Kers-ten, Fort Dodge; Dr. Porter, Grinnell; Dr. Luse, Clinton; Dr. Weinberg, Davenport; Dr. Larsen, Centerville; Dr. Bowman, Leon; Dr. Alden, Red Oak.

I will be glad to entertain a motion to accept or reject these men.

Dr. Braunlich: I *move* that they be elected.

[*The motion was seconded, put to a vote and carried unanimously.*]

The Speaker: I there is nothing further to come before this meeting of the Society, I want to thank you all for the courteous way in which you have treated your speaker. If there is nothing further to be brought up, we will adjourn.

[The meeting adjourned sine die at 10:45 a.m.]

FIFTY YEAR CLUB MEMBERS

June 21, 1950

ADAMS, ERNEST M.....	Central City	LEE, GISLE M.....	Thompson
ALDRICH, J. FRANK.....	Clarinda	LOOSE, DAVID N.....	Maquoketa
AMDOR, WILLIAM F.....	Glendale, Calif.	McBURNEY, GEORGE F.....	Belmond
BARBER, OLIVER S.....	Creston	McLAUGHLIN, CHARLES W.....	Washington
BATES, WILLIAM R.....	Fort Dodge	MacNAUGHTON, LUTHER D.....	Eagle Grove
BEATTY, EDWARD D.....	Mallard	MARBLE, PEARL L.....	Liscomb
BELL, EDWARD P.....	Pleasantville	MASON, STELLA M.....	Mason City
BELLINGER, FRANK E.....	Council Bluffs	MEYERS, FRANK W.....	Dubuque
BIERRING, WALTER L.....	Des Moines	MILLS, FRANK W.....	Ottumwa
BIRNEY, CLEANTHUS E.....	Estherville	MINASSIAN, HAROOTUNE A.....	Des Moines
BOICE, CLYDE A.....	Washington	MORGAN, FRED B.....	Clinton
BOYD, FRANK E.....	Colfax	MORRIS, ZENELLA E. N.....	Stockport
BOYER, HOWARD C.....	Council Bluffs	MORRISON, WESLEY J.....	Cedar Rapids
BROWN, GATES M.....	Dayton	MORSE, CHARLES H.....	Eagle Grove
CARSON, ANDROS.....	Des Moines	MOTT, WILLIAM H.....	Farmington
CARVER, WILLIAM F.....	Fort Dodge	MYERS, FRANK L.....	Sheldon
CHITTUM, JOHN H.....	Wapello	NELSON, HARRY E.....	Dayton
CHITTUM, JOSIAH M.....	North Liberty	NICOLL, DAVID T.....	Mitchellville
COLE, ELMER J.....	Woodbine	NORTON, ALVA C.....	Rockwell City
CONAWAY, AARON C.....	Marshalltown	OGGEL, HERMAN D.....	Maurice
COOK, CLARENCE P.....	Des Moines	PACE, ARTHUR A.....	Toledo
DEAN, FRANK W.....	Council Bluffs	PAGELSEN, OTTO H.....	Iowa Falls
DEAN, WILLIAM F.....	Osceola	PATTERSON, JOHN N.....	Burlington
DENNISON, JOHN C.....	Bellevue	PECK, RAYMOND E.....	Davenport
ELY, FRANCIS A.....	Des Moines	PHELPS, MYRON H.....	Van Wert
FARNUM, EARL P.....	Sibley	PHILLIPS, I. HILDRETH.....	Missouri Valley
FIELD, GEORGE A.....	Des Moines	PRESNELL, J. WILLIAM.....	Scranton
FOLEY, FRED C.....	Newell	QUIRE, FRANK E.....	Lynnville
FOWLER, CHARLES C.....	Lovilia	RAMBO, DAVID T.....	Ottumwa
FRANKLIN, GEORGE W.....	Jefferson	REILEY, WILLIAM S.....	Red Oak
GANOE, JAMES O.....	Ogden	ROBINSON, ROBERT E.....	Waverly
GARDNER, JOHN R.....	Lisbon	ROGERS, CLAUDE B.....	Earlville
GARDNER, PAUL E.....	New Hampton	RUML, WENTZLE.....	Cedar Rapids
GEESEKA, OTTO A.....	Mount Pleasant	SAMS, JOSEPH H.....	Clarion
GILES, GEORGE C.....	Oakland	SANDERS, WILLIAM E.....	Long Beach, Calif.
GILFILLAN, HOMER J., SR.....	Bloomfield	SAWYER, PRINCE E.....	Sioux City
GILLMOR, BENJAMIN F.....	Red Oak	SCHENK, ERWIN.....	Des Moines
GIVENS, HEZEKIAH F.....	West Bend	SCOTT, SOPHIE H.....	Des Moines
GRAY, HENRY A.....	Keokuk	SHELTON, CHARLES D.....	Bloomfield
GRIFFIN, CLARK C.....	Vinton	SINNING, AUGUSTUS.....	Iowa City
GRIFFIN, JOHN M.....	Des Moines	SMITH, FRANKLIN C.....	Mount Ayr
GRIFFIN, SARAH M. F.....	Manson	STEVENS, HARRY L.....	Floris
GUTCH, THOMAS E.....	Albia	STINSON, ALICE C.....	Estherville
HARRINGTON, BURTON.....	Cedar Rapids	STUART, PERCY E.....	Nashua
HEADY, CONDA C. C.....	Bloomfield	SUGG, HERBERT R.....	Clinton
HEATHMAN, FRANK E.....	Pocahontas	THROCKMORTON, R. FRED.....	Des Moines
HEETLAND, LOUIS H.....	Sibley	TINLEY, MARY L.....	Council Bluffs
HENRY, CLYDE A.....	Farson	VANCE, FREDERICK E.....	Eddyville
HIGHT, WILLIAM B.....	Des Moines	VAN EPPS, CLARENCE E.....	Iowa City
HILLS, HENRY M.....	Lamona	WALKER, HARRY L.....	Cedar Rapids
HULL, HENRY C.....	Washington	WALSH, THOMAS N.....	Hawkeye
HUSTON, HERBERT M.....	Ruthven	WALSTON, EDWIN B.....	Des Moines
JASTRAM, ALFRED H.....	Remsen	WANAMAKER, AMBROSE E.....	Hamburg
JOHNSON, ALBERT P.....	Sigourney	WELLS, FRED L.....	Des Moines
JONES, LOUIS H.....	Wall Lake	WESTENBERGER, JOSEPH C.....	St. Ansgar
KAUFFMAN, WILLIAM A.....	Marshalltown	WHITEHILL, NELSON M.....	Boone
KERLIN, JARED D.....	Des Moines	WHITLEY, RALPH L.....	Osage
KERN, LESTER C.....	Waverly	WHITMIRE, WILLIAM L.....	Sumner
KING, DAVID H.....	Batavia	WILSON, FRED C.....	Colesburg
KING, ELLIOTT R.....	Letts	WOLFE, THOMAS L.....	Mount Vernon
KISOR, FRANK H.....	Mechanicsville	WOODBIDGE, JAMES W.....	Emmetsburg
KRIEBS, FRANK J.....	Elkport	WRIGHT, WALTER N.....	Rose Hill
LAUGEL, AMBROSE M.....	Breda	WYLAND, ASA O.....	Underwood
LEASE, NIMROD J.....	Crawfordsville	YOUNG, HENRY C.....	Bloomfield

IOWA STATE MEDICAL SOCIETY

Officers and Committees, 1950-1951

President.....Thomas F. Thornton, Waterloo
 President-Elect.....Donald C. Conzett, Dubuque
 First Vice President.....George H. Scanlon, Iowa City
 Second Vice President.....Bush Houston, Nevada
 Secretary.....Allan B. Phillips, Des Moines
 Treasurer.....N. Boyd Anderson, Des Moines

COUNCILORS

First District—Leslie L. Carr, West Union.....1952
 Second District—Charles H. Cretzmeyer, Algona.....1953
 Third District—Mathew T. Morton, Estherville.....1954
 Fourth District—Wendell L. Downing, Le Mars.....1953
 Fifth District—Edward F. Beeh, Fort Dodge.....1951
 Sixth District—Otis D. Wolfe, Marshalltown, Chairman....1952
 Seventh District—Harold A. Housholder, Winthrop.....1953
 Eighth District—Clyde A. Boice, Washington, Secretary...1954
 Ninth District—Elias B. Howell, Ottumwa.....1953
 Tenth District—James G. Macrae, Creston.....1951
 Eleventh District—William S. Reiley, Red Oak.....1952

TRUSTEES

Ben T. Whitaker, Boone, Chairman.....1951
 Robert N. Larimer, Sioux City.....1952
 Lonnie A. Coffin, Farmington.....1953

DELEGATES TO A. M. A.

Donald Conzett, Dubuque.....January 1, 1951
 George Braunlich, Davenport.....January 1, 1951
 Gerald V. Caughlan, Council Bluffs.....January 1, 1952
 (Newly elected delegates to take office January 1, 1951)
 George Braunlich, Davenport.....January 1, 1953
 Julian E. McFarland, Ames.....January 1, 1953

ALTERNATE DELEGATES TO A. M. A.

	Term Expires
Julian E. McFarland, Ames.....	January 1, 1951
Edward L. Rohlf, Waterloo.....	January 1, 1952
(Newly elected alternate delegates to take office January 1, 1951)	
Frank G. Ober, Burlington.....	January 1, 1953
Ernest M. Kersten, Fort Dodge.....	January 1, 1953

EXECUTIVE COUNCIL

Thomas F. Thornton, Chairman.....Waterloo
 Donald C. Conzett.....Dubuque
 Allan B. Phillips.....Des Moines
 N. Boyd Anderson.....Des Moines
 Ben T. Whitaker.....Boone
 Robert N. Larimer.....Sioux City
 Lonnie A. Coffin.....Farmington
 Leslie L. Carr.....West Union
 Charles H. Cretzmeyer.....Algona
 Mathew T. Morton.....Estherville
 Wendell L. Downing.....LeMars
 Edward F. Beeh.....Fort Dodge
 Otis D. Wolfe.....Marshalltown
 Harold A. Housholder.....Winthrop
 Clyde A. Boice.....Washington
 Elias B. Howell.....Ottumwa
 James G. Macrae.....Creston
 William S. Reiley.....Red Oak
 George Braunlich.....Davenport
 Gerald V. Caughlan.....Council Bluffs

THE JOURNAL

Everett M. George, Editor.....Des Moines

Standing Committees of the House of Delegates

COMMITTEE ON ARRANGEMENTS

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 Donald C. Conzett.....Dubuque
 Allan B. Phillips.....Des Moines
 N. Boyd Anderson.....Des Moines

COMMITTEE ON CONSTITUTION AND BY-LAWS

George C. Albright, Chairman.....Iowa City
 John D. Conner.....Nevada
 Henry C. Scharnweber.....Boone

LEGISLATIVE COMMITTEE

Frank C. Coleman, Chairman.....Des Moines
 John W. Billingsley.....Newton
 Richard J. Steves.....Des Moines
 Thomas F. Thornton.....Waterloo
 Allan B. Phillips.....Des Moines

COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

George H. Scanlon, Chairman.....Iowa City
 F. Harold Entz.....Waterloo
 Lee F. Hill.....Des Moines

MEDICOLEGAL COMMITTEE

Frank A. Ely, Chairman, Des Moines.....1953
 George C. Albright, Iowa City.....1951
 Loren K. Meredith, Des Moines.....1952

COMMITTEE ON MEDICAL SERVICE AND PUBLIC RELATIONS

Fred Sternagel, Chairman.....West Des Moines
 Martin I. Olsen.....Des Moines
 Ransom D. Bernard.....Des Moines
 Charles T. Maxwell.....Sioux City
 Roy C. Gutch.....Chariton
 James E. Reeder.....Sioux City
 Herbert E. Stroy.....Osceola
 Charles A. Nicoll.....Panora
 Otto N. Glesne.....Fort Dodge

Special Committees of the House of Delegates

BALDRIDGE-BEYE MEMORIAL COMMITTEE

James W. Agnew, Chairman.....Davenport
Willis M. Fowler.....Iowa City
Emory D. Warner.....Iowa City

CANCER COMMITTEE

Fred H. Beaumont, Chairman.....Council Bluffs
Donovan F. Ward.....Dubuque
Arthur W. Erskine.....Cedar Rapids
Edmund G. Zimmerer.....Des Moines
Harold W. Morgan.....Mason City
Vernon W. Petersen.....Clinton
Walter J. Balzer.....Davenport
Sigmund F. Singer.....Ottumwa
Alonzo L. Jenks.....Des Moines
John B. Thielen.....Fonda

FRACTURE COMMITTEE

Frank G. Ober, Chairman.....Burlington
Carroll O. Adams.....Mason City
Lee R. Martin.....Council Bluffs
Dwight C. Wirtz.....Des Moines
James W. Graham.....Sioux City

COMMITTEE ON GENERAL PRACTICE

Charles A. Nicoll, Chairman.....Panora
J. Stewart Jackson.....Mt. Pleasant
Cecil V. Hamilton.....Garner
Dwight G. Sattler.....Kalona
Elmo E. Gamet.....Lamoni
Daniel S. Egbert.....Fort Dodge

GRIEVANCE COMMITTEE

Ernest M. Kersten, Chairman.....Fort Dodge
Harry B. Weinberg, Vice-chairman.....Davenport
Morris G. Beddoes, Secretary.....Oelwein
Leslie W. Swanson.....Mason City
Thomas L. Ward.....Arnolds Park
Charles P. McHugh.....Sioux City
S. Dale Porter.....Grinnell
Ralph F. Luse.....Clinton
Elmer A. Larsen.....Centerville
Arthur S. Bowers.....Orient
Oscar Alden.....Red Oak

HEART COMMITTEE

William B. Bean, Chairman.....Iowa City
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COUNTY	PRESIDENT	SECRETARY	DEPUTY COUNCILOR
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Adams	C. L. Bain, Corning	J. C. Nolan, Corning	A. W. Brunk, Prescott
Allamakee	J. W. Myers, Postville	C. R. Rominger, Waukon	J. W. Thornton, Lansing
Appanoose	E. A. Larsen, Centerville	G. L. Richey, Centerville	E. A. Larsen, Centerville
Audubon	F. E. James, Elk Horn	H. K. Merselis, Audubon	L. E. Jensen, Audubon
Benton	G. R. Woodhouse, Vinton	L. W. Koontz, Vinton	N. B. Williams, Belle Plaine
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Boone	W. G. Laidley, Ogden	H. C. Scharnweber, Boone	H. C. Scharnweber, Boone
Bremer	O. C. Hardwig, Waverly	W. C. Wildberger, Waverly	F. R. Sparks, Waverly
Buchanan	N. L. Hersey, Independence	J. F. Loock, Independence	J. W. Barrett, Jr., Independence
Buena Vista	T. E. Shea, Storm Lake	P. W. Brecher, Storm Lake	H. E. Farnsworth, Storm Lake
Butler	F. A. Rolfs, Aplington	F. F. McKean, Allison	Bruce Ensley, Shell Rock
Calhoun	P. W. Van Metre, Rockwell City	C. E. Knouf, Lake City	W. W. Weber, Pomeroy
Carroll	V. T. Lindsay, Glidden	J. M. Tierney, Carroll	W. L. McConkie, Carroll
Cass	W. F. Giegerich, Atlantic		
Cedar	H. E. O'Neal, Tipton	O. E. Kruse, Tipton	P. M. Hoffman, Tipton
Cerro Gordo	G. J. Sartor, Mason City	G. I. Tice, Mason City	G. J. Sartor, Mason City
Cherokee	H. D. Seely, Cherokee	W. C. Brinegar, Cherokee	C. H. Johnson, Cherokee
Chickasaw	A. L. Murphey, Fredericksburg	J. H. Ahrens, New Hampton	P. E. Gardner, New Hampton
Clarke	H. E. Stroy, Osceola	H. N. Boden, Osceola	H. E. Stroy, Osceola
Clay	E. M. Christensen, Spencer	F. D. Edington, Spencer	C. C. Jones, Spencer
Clayton	C. R. Goddard, Guttenberg	T. W. Lichter, Edgewood	P. R. V. Hommel, Elkader
Clinton	J. R. Jowett, Clinton	A. B. Henningsen, Clinton	R. F. Luse, Clinton
Crawford	J. M. Hennessey, Manilla	J. J. Gleeson, Vail	R. M. Johnson, Denison
Dallas-Guthrie	W. A. Seidler, Jr., Jamaica	C. A. Nicoll, Panora	C. A. Nicoll, Panora
Davis	Richard Schoonover, Bloomfield	H. C. Young, Bloomfield	G. W. Gilfillan, Bloomfield
Decatur	K. R. Brown, Leon	T. R. Viner, Leon	F. A. Bowman, Leon
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Des Moines	F. H. Coulson, Burlington	R. B. Allen, Mediapolis	F. G. Ober, Burlington
Dickinson	T. L. Ward, Arnolds Park	R. F. Wolcott, Spirit Lake	T. L. Ward, Arnolds Park
Dubuque	D. F. Ward, Dubuque	C. A. Darrow, Dubuque	J. C. Painter, Dubuque
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Fayette	B. A. Hall, Maynard	M. G. Beddoes, Oelwein	C. C. Hall, Maynard
Floyd	R. W. Stober, Charles City	E. V. Ayers, Charles City	R. A. Fox, Charles City
Franklin	W. R. Arthur, Hampton	R. T. Day, Hampton	J. C. Powers, Hampton
Fremont	Ralph Lovelady, Sidney	A. E. Wanamaker, Hamburg	A. E. Wanamaker, Hamburg
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Grundy	H. V. Kahler, Reinbeck	W. K. Kienzie, Wellsburg	W. O. McDowell, Grundy Center
Hamilton	G. A. Paschal, Webster City	W. B. McGahey, Stratford	F. F. Howar, Webster City
Hancock-Winnebago	G. F. Dolmage, Buffalo Center	Thomas Mangan, Forest City	C. V. Hamilton, Garner
Hardin	L. F. Parker, Iowa Falls	F. N. Cole, Iowa Falls	F. N. Cole, Iowa Falls
Harrison	C. W. Byrnes, Dunlap	Hans Hansen, Logan	F. N. Hanson, Magnolia
Henry	J. R. McKirahan, Wayland	K. P. Beebe, Mount Pleasant	J. S. Jackson, Mt. Pleasant
Howard	D. O. Maland, Cresco		P. A. Nierling, Cresco
Humboldt	R. W. Beardsley, Livermore	J. H. Coddington, Humboldt	I. T. Schultz, Humboldt
Ida	E. H. Heilman, Ida Grove	J. B. Dressler, Ida Grove	M. W. Grubb, Galva
Iowa	D. F. Miller, Williamsburg	I. J. Sinn, Williamsburg	C. F. Watts, Marengo
Jackson	J. J. Tilton, Bellevue	J. E. Swegart, Maquoketa	F. J. Swift, Maquoketa
Jasper	J. W. Ferguson, Newton	J. R. Singer, Newton	T. D. Wright, Newton
Jefferson		Robert A. Ryan, Fairfield	R. A. McGuire, Fairfield
Johnson	G. D. Callahan, Iowa City	E. J. Boyd, Iowa City	G. C. Albright, Iowa City
Jones	R. D. Paul, Anamosa	R. W. Myers, Monticello	T. M. Redmond, Monticello
Keokuk	K. L. McGuire, Keota	John Maxwell, What Cheer	D. L. Grothaus, Delta
Kossuth	J. N. Kenefick, Algona	J. M. Schutter, Algona	J. G. Clapsaddle, Burt
Lee	L. J. Dierker, Fort Madison	W. B. Kasiske, Keokuk	L. C. Feightner, Fort Madison
Linn	R. D. Proctor, Cedar Rapids	John Parke, Cedar Rapids	L. C. Humphrey, Keokuk
Louisa	L. E. Weber, Wapello	J. H. Chittum, Wapello	B. F. Wolverton, Cedar Rapids
Lucas	D. B. Sollis, Chariton	R. E. Anderson, Chariton	J. H. Chittum, Wapello
Lyon	A. C. Wubben, Rock Rapids	S. H. Cook, Rock Rapids	S. L. Throckmorton, Chariton
Madison	G. J. Anderson, Winterset	P. F. Chesnut, Winterset	S. H. Cook, Rock Rapids
Mahaska	K. M. Lemon, Oskaloosa	Joseph Lederman, Oskaloosa	C. B. Hickenlooper, Winterset
Marion	J. W. Doles, Knoxville	W. W. Bourke, Knoxville	E. B. Wilcox, Oskaloosa
Marshall	J. J. Stegman, Marshalltown	E. L. Keyser, Marshalltown	H. L. Bridgeman, Knoxville
Mills	W. A. DeYoung, Glenwood	T. E. Shonka, Malvern	E. L. Keyser, Marshalltown
Mitchell	W. E. Owen, St. Ansgar	C. F. Watson, Stacyville	D. W. Harman, Glenwood
Monona	L. A. Gaukel, Onawa	P. L. Wolpert, Onawa	J. O. Eiel, Osage
Monroe	W. S. Chester, Albia		C. W. Young, Onawa
Montgomery	E. M. Sorensen, Red Oak	S. D. Poore, Villisca	H. J. Richter, Albia
Muscatine	C. P. Phillips, Muscatine	W. E. Catalona, Muscatine	Oscar Alden, Red Oak
O'Brien	L. H. Mattice, Sheldon	W. S. Balkema, Sheldon	C. P. Phillips, Muscatine
Osceola	E. S. Aelits, Sibley	Frank Rizzo, Sibley	T. D. Kas, Sutherland
Page	N. D. Render, Clarinda	S. T. Ramsdell, Clarinda	Frank Reinsch, Ashton
Palo Alto	J. E. Black, Emmetsburg	W. A. Johnson, Emmetsburg	W. H. Maloy, Shenandoah
Plymouth	R. J. Fisch, Le Mars	L. C. O'Toole, Le Mars	H. L. Brereton, Emmetsburg
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Polk	L. F. Hill, Des Moines	F. C. Coleman, Des Moines	C. L. Jones, Gilmore City
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Poweshiek	W. M. Page, Montezuma	E. S. Korfmaier, Grinnell	G. N. Best, Council Bluffs
Ringgold	O. L. Fullerton, Redding	J. W. Hill, Mount Ayr	S. D. Porter, Grinnell
Sac	C. E. Lierman, Lake View	A. A. Blum, Wall Lake	E. J. Watson, Diagonal
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Shelby	A. J. Ryan, Harlan	R. E. Donlin, Harlan	A. P. Donohoe, Davenport
Sioux	A. L. McGilvra, Sioux Center	C. B. Murphy, Alton	Wm. Doornink, Orange City
Story	David Wall, Ames	W. B. Armstrong, Ames	Push Houston, Nevada
Tama	L. G. Schaeferle, Gladbrook	A. J. Havlik, Tama	A. J. Havlik, Tama
Taylor	G. W. Rimel, Bedford	W. H. Cash, Lenox	G. W. Rimel, Bedford
Union	J. G. Macrae, Creston	C. E. Sampson, Creston	C. C. Rambo, Creston
Van Buren	L. A. Coffin, Farmington	J. T. Worrell, Keosauqua	L. A. Coffin, Farmington
Wapello	C. L. Worley, Ottumwa	F. B. Hoeven, Ottumwa	C. A. Henry, Farson
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Wayne	A. E. Davis, Seymour	C. F. Brubaker, Corydon	J. H. McCall, Allerton
Webster	O. N. Glesne, Ft. Dodge	D. S. Ebert, Ft. Dodge	C. J. Baker, Fort Dodge
Winnebago	J. G. Goggin, Ossian	F. F. Hagen, Decorah	L. C. Kuhn, Decorah
Woodbury	W. K. Hicks, Sioux City	M. A. Blackstone, Sioux City	D. B. Blume, Sioux City
Worth	S. S. Westly, Manly	G. S. Westly, Manly	S. S. Westly, Manly
Wright	R. L. Gorrell, Clarion	J. R. Christensen, Eagle Grove	J. H. Sams, Clarion

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of the
IOWA STATE MEDICAL
SOCIETY
1950



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as of
June 21, 1950

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 Abbott, Walter D., Des Moines
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 Acker, Wesley H., Waterloo
 Ackerman, Emma M., Sioux City
 Ackerman, John H., Nashua
 Adair, Gael M., Anita
 Adams, Carroll O., Mason City
 Adams, Ernest M., Central City (L.M.)
 Adams, Leon P., Newton
 Ady, Albert E., West Liberty
 Aeilts, Eerko S., Sibley
 Agnew, Fred F., Independence
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 Allen, James H., Iowa City
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 Allen, Robert B., Mediapolis
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 Allender, Robert B., Marion
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 Amesbury, Harry A., Clinton
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 Amick, Perry P., Des Moines
 Amle, Paul J., Waverly
 Andersen, Bruce V., Greene
 Andersen, Holger M., Strawberry Point
 Anderson, DeWayne C., Stanhope
 Anderson, Glenn J., Winterset
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 Anderson, J. Donald, Des Moines
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 Angell, Charles A., Des Moines
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 Anneberg, Paul D., Carroll
 Anneberg, Walter A., Carroll
 Anrode, Ralph A., Davenport
 Anspach, Ellen E. F., Mitchellville
 Anspach, Royal G., Colfax
 Anspach, Royal S., Mitchellville
 Anthony, Walter E., Ottumwa
 Arent, Asa S., Humboldt
 Arent, Asaph, Humboldt (L.M.)
 Arkin, Archie A., Des Moines
 Armstrong, Frederick C., Cascade
 Armstrong, Max A., Newell
 Armstrong, Robert B., Ida Grove
 Armstrong, William B., Ames
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 Arnold, Keith E., Sioux City
 Arthur, William R., Hampton
 Ash, William E., Council Bluffs
 Ashby, John D., Davenport
 Ashline, George H., Keokuk
 Asthalter, Robert W., Muscatine
 Atkinson, John, Jr., Ottumwa
 Ayers, Emmet V., Charles City
 Ayers, LeRoy J., Sioux City
 Bacon, John F., Ames
 Bacon, Joshua E., Jr., Dubuque
 Bailey, Jesse L., Des Moines
 Bain, C. Lorimer, Corning
 Baird, William A., Iowa City
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 Baldwin, Leon A., Riverton
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 Baltzell, Winston C., Charles City
 Balzer, Walter J., Davenport
 Banton, Oscar H., Charles City
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 Barbieri, Angelo B., Garwin
 Barbour, Howard W., Mason City
 Bare, Norton H., Mount Pleasant
 Barg, Egmont H., Mason City
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 Barnes, Milford E., Iowa City
 Barnett, Reu L., Atlantic
 Barnett, Sylvester W., Cedar Falls
 Barr, Guy E., Sioux City
 Barrent, Milton E., Iowa City
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 Barrett, James W., Jr., Independence
 Barrett, Ruth E. M., Mount Ayr
 Barrett, Sterling A., Waterloo
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 Bartlett, George E., New Sharon
 Bartley, Richard L., Sully
 Barton, Edwin G., Ottumwa
 Barton, Robert L., Dubuque
 Bartruff, Charles H., Reinbeck
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 Bates, Maurice T., Des Moines
 Bates, William R., Fort Dodge (L.M.)
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 Baumann, James G., Charles City
 Baumeister, Charles F., Avoca
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 Bay, Frank N., Albion
 Beal, Arline M., Davenport
 *Beam, Watson W., Rolfe (L.M.)
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 Beardsley, David E., Cedar Rapids
 Beardsley, Ralph W., Livermore
 Beatty, Alexander S., Creston
 Beatty, Edward D., Mallard (L.M.)
 Beatty, Howard G., Creston
 Beaumont, Fred H., Council Bluffs
 Becker, Paul G., Iowa City
 Beckman, Charles W., Kalona
 Beckman, Peter W., Perry
 Beddoes, Morris G., Oswein
 Beebe, John R., Mount Pleasant
 Beebe, Kenneth P., Mount Pleasant
 Beech, Edward F., Fort Dodge
 Bees, Louis E., Bennett
 Behrens, George W., Eldridge
 Bell, Edward P., Pleasantville (L.M.)
 Bell, Robert S., Iowa City
 Bellinger, Frank E., Council Bluffs (L.M.)
 Bender, Henry A., Waterloo
 Bendixen, Frederick C., LeMars
 Benfer, Merrill M., Davenport
 Bengel, Donald K., Dows
 Bennett, Andrew W., Iowa City
 Bennett, Chester G., Iowa City
 Bennett, Geoffrey W., Oskaloosa
 Berg, John W., Iowa City
 Bergen, Charles T., Hampton
 Berger, Raymond A., Davenport
 Bergstrom, Albin C., Missouri Valley
 Berkstresser, Charles F., Sioux City
 Bernard, Ransom D., Des Moines
 Berney, Paul W., Cedar Rapids
 Bessmer, William G., Davenport
 Best, Gordon N., Council Bluffs
 Bettler, Philip L., Sioux City
 Beyer, Mary C., Iowa City
 Bezman, Harry S., Traer
 Bickert, J. Norman, Cedar Rapids
 Bickley, Donald W., Waterloo
 Bickley, G. G., Jr., Waterloo (L.M.)
 Bickley, John W., Waterloo
 Biebesheimer, George A., Reinbeck
 Bierring, Walter L., Des Moines (L.M.)
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 Birelow, Charles T., Clinton
 Billingsley, John W., Newton
 Binford, William S., Davenport
 Bird, Raymond G., Clarion
 Birge, Richard F., Des Moines
 Birney, Cleanthus E., Estherville (L.M.)
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 Bishop, James F., Davenport
 Black, Harold C., Des Moines
 Black, James E., Emmetsburg
 Blackstone, Martin A., Sioux City
 Blaha, George A., Whitten
 Blaha, Vernon B., Marshalltown
 Blair, Donald W., Iowa City
 Blanchard, Russell W., Council Bluffs
 Blenderman, Albert D., Jr., Paullina
 Bliss, William R., Columbus, Ohio
 Block, Charles E., Davenport
 Block, Lawrence A., Davenport
 Block, Walter M., Cedar Rapids
 Blome, Arthur L., Ottumwa
 Blome, Glenn C., Ottumwa
 Blong, Theodore E., Stacyville
 Blum, Aloysius A., Wall Lake
 Blum, Otto S., Waverly
 Blume, Donald B., Sioux City
 Blumgren, John E., Vinton
 Boden, Herbert N., Osceola
 Boden, Worthey C., Sioux City
 Boe, Henry, Sioux City
 Boekelheide, Priscilla D., Riverside
 Boes, Frederick, Davenport
 Bogle, Warren C., Center Point
 Boice, Clyde A., Washington (L.M.)
 Boiler, William F., Iowa City
 Boller, Galen C., Altadena, Calif.
 Bolton, Thomas C., Chicago, Ill.
 Bond, Thomas A., Des Moines
 Bond, Thomas P., Des Moines (L.M.)
 Bone, Harold C., Des Moines
 Bonfiglio, Michael, Iowa City
 Bonnell, Frank S., Fairfield
 Borgen, Donald L., Gowrie
 Borre, Helge, Red Oak
 Borts, Irving H., Iowa City
 Bos, Howard C., Oskaloosa
 Bosch, Calvin C. F., Sibley
 Bossingham, Earl N., Clarinda
 Bossingham, Ottmer N., Clarinda
 Boston, Burr C., Waterloo
 Bosworth, Wesley F., Clarinda
 Boughn, J. Kent, Mapleton
 Boulware, Lois, Iowa City
 Bourke, William W., Knoxville
 Bourne, Melvin G., Algona
 Bovenmyer, DeVoe O., Ottumwa
 Bowen, Frederick S., Woodburn
 Bowers, Arthur S., Orient
 Bowers, Bert A., Sioux City
 Bowers, Clifford W., Sioux City
 Bowers, Henry W., Nevada
 Bowie, Louis L., Marshalltown
 Bowman, Fred A., Leon (L.M.)
 Bowser, William F., Davenport
 Boyce, David C., Iowa City
 Boyd, Eugene J., Iowa City
 Boyd, Frank E., Colfax (L.M.)
 Boyd, Julian D., Iowa City
 Boyer, Howard C., Council Bluffs (L.M.)
 Boyer, Ulysses S., Davenport
 Bozak, Thaddeus T., West Branch
 Braatellen, Newell T., Des Moines
 Bradford, Clyde R., Des Moines
 Bradley, Carl L., Newhall
 Braulich, George, Davenport
 Brecher, Paul W., Storm Lake
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 Brewster, Calvin O., Britt
 Bridgeman, Harry L., Knoxville (L.M.)
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 Brincko, John, Burlington
 Brinegar, Willard C., Cherokee
 Brink, Raymond J., Ayrshire
 Brinker, Marion H., Jefferson
 Brinkman, William F., Pocahontas
 Brintnall, Edgar S., Iowa City
 Brobyn, Thomas E., Grinnell
 Broderick, Clarence E., Cherokee
 Brody, Sidney, Ottumwa
 Broman, John A., Maquoketa
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 Brown, Carroll A., Sioux City
 Brown, Douglas H., Forest City
 Brown, Gates M., Dayton (L.M.)
 Brown, Harold L., Sioux City
 Brown, Ivan E., Spencer
 Brown, Kenneth R., Leon
 Brown, Merle J., Davenport
 Brown, Robert C., Mason City
 Brown, Wayne B., Mount Pleasant
 Brown, William J., Jr., Davenport
 Brownstone, Manuel, Clear Lake
 Brownstone, Sidney, Clear Lake
 Brubaker, Carl F., Corydon
 Bruce, James H., Fort Dodge
 Bruechert, Henry N., Parkersburg
 Brumer, Herbert B., Raleigh, N. C.
 Brummitt, Charles F., Centerville
 Brundige, Ralph E., Akron
 Bruner, Julian M., Des Moines
 Brunk, Amos W., Prescott
 Brunner, Walter J., Akron
 Brush, C. Herbert, Shenandoah
 Brush, Frederick C., Mason City
 Buchanan, John J., Milford
 *Buckley, Charles E., Blockton (L.M.)
 Buckmaster, Raleigh A., Dunkerton
 Bullock, Alfred L., Cushing
 Bullock, Grant D., Inwood
 Bullock, William E., Lake Park
 Bunch, Harold M., Shenandoah
 Bunge, Raymond G. E., Iowa City
 Bursbank, Dean S., Pleasantville
 Burch, Earl S., Dayton
 Burcham, Thomas A., Des Moines
 Buresh, Abner, Lime Springs
 Burgeson, Floyd M., Des Moines
 Burgess, Arthur W., Iowa Falls
 Burke, Thomas A., Mason City
 Burleson, Marvin W., Fort Dodge
 Burns, Harry, Des Moines
 Burnside, Raymond A., Des Moines
 Burr, Charles L., Des Moines
 Burroughs, Hubert H., Sioux City
 Bursheim, Peder J., Des Moines
 Bush, Earl B., Ames
 Bushmer, Alexander, Orange City

- Bushnell, John W., Sioux City
 Butler, Margaret K., Fort Dodge
 Butterfield, Edwin J., Tucson, Ariz. (L.M.)
 Buxton, Otho C., Jr., Webster City
 Byers, Albert G., Coggon
 Byers, Bert H., Manchester
 Byrnes, Clemmet W., Dunlap
 Cahn, Philipp, Oakdale
 Calbreath, Lloyd B., Humeston
 Callahan, George D., Iowa City
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 Campbell, Thomas R., Sioux Rapids
 Campbell, Walter V., Oskaloosa
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 Carey, Michael J., Council Bluffs
 Carlile, Amos W., Manning
 Carlson, Elmer H., Muscatine
 Carlson, Frank G., Mason City (L.M.)
 Carney, Robert G., Iowa City
 Carney, Roscoe P., Jr., Davenport
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 Carpenter, Ralph C., Marshalltown
 Carr, Leslie L., West Union
 Carr, Thomas L., Iowa City
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 Carroll, Thomas J., Sibley
 Carryer, Carl H., Des Moines (L.M.)
 Carson, Andros, Des Moines (L.M.)
 Carson, Raymond W., Winterset
 Carstensen, Vincent H., Waverly
 Carstenson, Albert B., Linn Grove
 Carter, John R., Iowa City
 Carver, David C., Rockwell City
 Carver, William F., Fort Dodge (L.M.)
 Cary, Walter, Dubuque
 Cash, Paul T., Des Moines
 Cash, William H., Lenox
 Cashman, Chester F., Hartley
 Castell, John W., Fairfield
 Castles, William A., Dallas Center
 Catalona, William E., Muscatine
 Catlin, Karl A., Clarinda
 Catterson, Leroy F., Oskaloosa
 Caughlan, Gerald V., Council Bluffs
 Cauley, Francis P., Anthon
 Caulfield, John D., New Hampton
 Chadbourne, Theodore L., Vinton (L.M.)
 Chain, Leo W., Dedham
 Challed, Don S., Cedar Rapids
 Chambers, Charles L., Des Moines
 Chambers, James W., Des Moines
 Chapler, Keith M., Dexter
 Chapman, Frederick J., Keokuk
 Chapman, Robert M., Cedar Rapids
 Chase, Sumner B., Fort Dodge
 Chase, Walter E., Rippey
 Chase, William B., Des Moines
 Chase, William B., Jr., Des Moines
 Chenoweth, Charles E., Mason City
 Chesnut, Paul F., Winterset
 Chester, Walter S., Albia
 Childs, Hal A., Creston (L.M.)
 Chittum, John H., Wapello (L.M.)
 Christensen, Emil M., Garner
 Christensen, Eunice M., Spencer
 Christensen, Everett D., Spencer
 Christensen, John R., Eagle Grove
 Christiansen, Charles C., Grand Mound
 Christiansen, James, Sioux City
 Christiansen, John E., Durant
 Clapsaddle, Dean W., Clear Lake
 Clapsaddle, John G., Burt
 Clark, Clayton W., Nashua
 Clark, Edward C., Iowa City
 Clark, Frank H., Clarinda
 Clark, George H., Oskaloosa
 Clark, James P., Estherville
 Clark, Orson W., Ogden
 Clark, Richardson E., Manchester
 Clark, Thomas D., Victor
 Clary, William H., Prescott (L.M.)
 Clifton, James A., Iowa City
 Closson, Charles L., Walker
 Cmeyla, Patrick M., Sioux City
 Cobb, Elliott A., Cedar Rapids
 Cobb, Elliott C., Sioux City
 Coburn, Frank E., Iowa City
 Cochran, J. Lawrence, Carroll
 Coddington, James H., Humboldt
 Cody, William E., Sioux City
 Coffin, Lonnie A., Farmington
 Cogley, John P., Council Bluffs
 Cohen, Sidney A., Council Bluffs
 Colbert, Lawrence D., Royal
 Cole, Elmer J., Woodbine (L.M.)
 Cole, Fern N., Iowa Falls
 Cole, Harold P., Thurman
 Cole, Julia, Ames
 Coleman, Francis C., Des Moines
 Collins, Harry A., Des Moines
 Collins, Loren E., Estherville
 Collins, Robert M., Council Bluffs
 Collison, Robert M., Oskaloosa
 Conaway, Aaron C., Marshalltown (L.M.)
 Conkling, Russell W., Des Moines
 Conley, Robert M., Perry
 Conlon, James B., Council Bluffs
 Conney, Roy M., Sergeant Bluff
 Connell, John, Des Moines
 Connelly, Edgar J., Dubuque
 Conner, John D., Nevada
 Conzett, Donald C., Dubuque
 Cook, Clarence P., Des Moines (L.M.)
 Cook, Kenneth G., Fairfield
 Cook, R. Sanford, Tipton
 Cook, Stuart H., Rock Rapids
 Cooper, Clark N., Waterloo
 Cooper, Gladys A., Red Oak
 Cooper, James S., Burlington
 Cooper, Jay C., Villisca
 Cooper, Raymond E., Keokuk
 Cooper, Wayne K., Cedar Rapids
 Corbin, Sylvannus W., Corydon
 Corcoran, Thomas E., Des Moines
 Cordes, Charles H., Rudd
 Coriden, Thomas L., Sioux City
 Corn, Henry H., Des Moines
 Cornell, Corwin S., Knoxville
 Cotton, Walter T., Iowa City
 Coughlan, Charles H., Fort Dodge
 Coughlan, Daniel W., Des Moines
 Coulson, Forest H., Burlington
 Coyne, Kenneth M., Burlington
 Crabb, George M., Mason City
 Crain, Lewis F., Deep River (L.M.)
 Crain, Mattie M., Deep River (L.M.)
 Cramer, Richard A., Cedar Falls
 Crawford, Jennings, Cedar Rapids
 Crawford, Robert H., Burlington
 Creamer, Frank H., Boone
 Cressler, Frank E., Churdan
 Cretzmeyer, Charles H., Algona
 Cretzmeyer, Charles H., Jr., Philadelphia,
 Cretzmeyer, Francis X., Emmetsburg
 Crew, Arthur E., Marion
 Crew, Philip, Marion
 Cronk, Charles H., Bloomfield (L.M.)
 Cross, Donald L., Boone
 Cross, Kenneth R., Des Moines
 Crow, George B., Burlington
 *Crow, Ira N., Fairfield
 Crowe, Denvil F., Carroll
 Crowley, Daniel F., Des Moines
 Crowley, Daniel F., Jr., Des Moines
 Croxdale, Edward L., Villisca
 Crompton, Robert C., Webster City
 Cruzen, John L., Barnes City (L.M.)
 Culbertson, James W., Iowa City
 Cullen, Stuart C., Iowa City
 Cullison, Robert M., Winston Salem, N. C.
 Cunningham, Glenn D., Davenport
 Cunningham, Melvin B., Norwalk
 Curtis, Dean, Chariton
 Cusick, George W., Davenport
 Cutler, Roy H., Little Sioux
 Dahl, Harry W., Des Moines
 Dahlbo, John E., Sutherland
 Dahlquist, Ralph M., Decorah
 Dalbey, Glenn M., Traer
 Dana, Ethel S., Ottumwa
 Danielson, May, Clinton
 Danley, Royal C., Hamburg
 Darling, John P., Mason City
 Darrow, Clarence, Dubuque
 Daut, Richard V., Davenport
 Daut, Walter W., Muscatine
 Davey, William P., Sioux City
 ★Davidson, Maurice C., Miami, Fla.
 Davidson, Thorald E., Mason City
 Davis, Arthur E., Seymour
 Davis, Charles M., Centerville
 Dawson, Emerson B., Fort Dodge
 Dawson, Leon E., Des Moines
 Day, Charles S., Cedar Rapids
 Day, Philip M., Oskaloosa
 Day, Richard T., Hampton
 Dean, Abbott M., Council Bluffs
 Dean, Frank W., Council Bluffs (L.M.)
 Dean, Ray H., Washington (L.M.)
 Dean, William F., Osceola (L.M.)
 Deaton, Helen J., Iowa City
 DeCico, Ralph, Greenfield
 Decker, Charles E., Davenport
 Decker, Henry G., Des Moines
 Decker, Jay C., Sioux City
 Deering, John S., Onawa
 DeGowin, Elmer L., Iowa City
 Demaree, Chester, Lacona (L.M.)
 DeMeulenaere, John C., Grinnell
 Dempewolf, Robert D., Bellevue
 Denney, Benjamin F., Britt
 Dennison, John C., Bellevue (L.M.)
 Deranleau, Robert F., Perry
 Derifield, Randall S., Des Moines
 DeShaw, Earl H., Monticello
 Des Marias, Varina, Grundy Center
 Devine, James S., Whittemore
 Dewees, Frank L., Keokuk
 Dewey, Jay R., Schaller
 Dewitt, Charles H., Jr., Macedonia
 DeYarman, Kyle T., Morning Sun
 DeYoung, Ward A., Glenwood
 Diamond, Bernard, Waterloo
 Diddy, Keith W., Perry
 Dierker, Bernard J., Fort Madison
 Dierker, Frank H., Fort Madison
 Dierker, LeRoy J., Fort Madison
 Dimsdale, Lewis J., Sioux City
 Dingman, Marshall E., Urbana
 Ditto, Boyd L., Burlington
 Doane, Grace O., Des Moines
 Dobias, Stephen G., Old Fort, N. C.
 Dobson, Richard A., Sioux City
 Dodge, Lynn, Ames
 Doering, Valentine T., Fort Madison
 Dolan, Henry F., Anamosa
 Dolan, Thomas R., Anamosa
 Doles, James W., Knoxville
 Dolmage, George F., Buffalo Center
 Dolmage, George H., Mason City
 Donahue, James C., Centerville
 Donlan, Eugene V., Clinton
 Donlin, Robert E., Harlan
 Donohoe, Anthony P., Davenport
 Donohue, Edmund S., Sioux City
 Donovan, William H., Iowa City
 Doornink, William, Orange City
 Dorner, Ralph A., Des Moines
 Dorsey, Thomas J., Fort Dodge
 Doss, W. Gordon, Mount Ayr
 Doss, W. Norman, Leon
 Douvas, Nicholas G., Iowa City
 Down, Howard L., Sioux City
 Downing, Arthur H., Des Moines
 Downing, James A., Des Moines
 Downing, John S., Cedar Rapids
 Downing, Leroy M., Cedar Rapids
 Downing, Wendell L., LeMars
 Downs, Vernon S., Ottumwa
 Doyle, Joseph L., Sigourney
 Dressler, John B., Ida Grove
 Drew, Edward J., Des Moines
 Drier, William C., Waterloo
 Driver, Richard W., Waterloo
 Drown, Roger E., Fort Dodge
 Dulin, Evelyn H., Iowa City
 Dulin, John W., Iowa City
 Duling, Raymond J., Sioux City
 Dulmes, Abraham H., Klemme
 Dunkel, George K., Fairfield
 Dunlap, Wallace A., Des Moines (L.M.)
 Dunn, Francis C., Cedar Rapids
 Dunn, James, Davenport
 Dusdieker, Stanley W., Des Moines
 Dushkin, Milton A., Des Moines
 Dutton, Dean A., Van Horne
 Dvorak, Joseph E., Sioux City
 Dwyer, Bernard B., Clinton
 Dwyer, Robert E., Clinton
 Dyke, Lester M., Sheldon
 Dyson, James E., Des Moines
 Eastburn, Harvey B., Burlington
 Eastwood, Douglas W., Iowa City
 Eaton, Robert C., Clarion
 Ebersole, Francis F., Mount Vernon
 Echnernacht, Arthur P., Fort Dodge
 Eckberg, Richard A., Hubbard
 Eckhardt, Richard D., Iowa City
 Edington, Frank D., Spencer
 Edwards, Charles V., Council Bluffs
 Edwards, Ralph R., Centerville
 Egan, Thomas J., Bancroft
 Egbert, Daniel S., Fort Dodge
 Egermayer, George W., Elliott
 Eggleston, Alfred A., Burlington
 Egloff, William C., Mason City
 Ehrenhaft, Johann L., Iowa City
 Eichenlaub, John E., Ackley
 Eiel, John O., Osage
 Eiel, Merrill O., Osage
 Elam, James O., Iowa City
 Elkins, Higdon B., Iowa City
 Eller, Lancelot W., Kanawha
 Eller, William C., Waterloo
 Elliott, Olin A., Des Moines
 Ellis, Coburn H., Webster City
 Ellis, Howard G., Des Moines
 Ellison, George M., Clinton
 Ellyson, Charles W., Waterloo
 Ellyson, Craig D., Waterloo
 Ely, Francis A., Des Moines (L.M.)
 Emanuel, Dennis G., Ottumwa
 Embick, James F., Iowa City
 Emerson, Edward L., Muscatine
 Emmons, Marcus B., Clinton
 Engelmann, Andrew T., Sioux City

- Enna, Melchior D., Dumont
 Ennis, Harry H., Manchester
 Ensley, Bruce, Shell Rock
 Entringer, Albert J., Dubuque
 Entz, F. Harold, Waterloo
 Ericsson, Martin G., Cedar Falls
 Erikson, Roland E., Davenport
 Erskine, Arthur W., Cedar Rapids
 Estes, Maurice, Cedar Rapids
 Evans, Harold J., Davenport
 Evans, John G., New Hartford (L.M.)
 Evans, William I., Sac City
 Evers, Alvin E., Pella
 Eversmeyer, Benjamin E., Muscatine
 Faber, Luke, Dubuque
 Fail, Charles S., Adel
 Fain, William R., Des Moines
 Fair, Richard H., Onawa
 Fallows, Howard D., Mason City (L.M.)
 Farnsworth, Harold E., Storm Lake
 Farnum, Earl P., Sibley (L.M.)
 Faust, John H., Manson
 Fee, Charles H., Denison
 Fee, Knight E., Toledo
 Feher, Karoly I., Clarinda
 Feightner, Robert L., Fort Madison
 Fellows, Joseph G., Ames
 Felter, Allan G., Van Meter
 Fenton, Charles D., Bloomfield
 Fenton, Robert L., Centerville
 Ferguson, John W., Newton
 Ferlic, Rudolph J., Carroll
 Feuling, John C., Des Moines
 Field, Charles A., Cresco
 Field, George A., Des Moines (L.M.)
 Field, Grace E. W., Juneau, Alaska
 Fields, Robert B., LaPorte City
 Fieseler, Walter R., Fort Dodge
 Fieselmann, George F., Spencer
 Files, Edward H., Cedar Rapids
 Fillenwarth, Floyd H., Charles City
 Finch, George H., Des Moines
 Findley, William J. K., Storm Lake (L.M.)
 Fisch, Roman J., LeMars
 Fishman, Harlow J., Holstein
 Fisk, Charlotte, Des Moines
 Fitch, Robert E., Des Moines
 Fitzgerald, Joseph D., Sloan
 Fitzpatrick, Dennis F., Iowa City
 Flannery, Francis E., Cedar Rapids
 Flater, Norman C., Floyd
 Fleischman, Abraham G., Des Moines
 Fleming, Edward F., Rockwell
 Flickinger, Roger R., Mason City
 Flocks, Rubin H., Iowa City
 Floersch, Eugene B., Council Bluffs
 Floyd, Mark L., Iowa City
 Flynn, Charles H., Clarinda
 Flynn, James R., Jr., Cedar Rapids
 Flynn, Robert E., Iowa City
 Foley, Fred C., Newell (L.M.)
 Foley, Walter E., Davenport
 Forbes, Stephen A., Iowa City
 Fordyce, Frank W., Des Moines
 Forthman, William H., Iowa City
 Foss, Robert H., Clinton
 Foster, Morgan J., Cedar Rapids
 Foster, Samuel T., Adel
 Foster, Warren H., Clinton
 Foster, Wayne J., Cedar Rapids
 Foulk, Frank E., Des Moines
 Fourt, Arthur S., Melbourne
 Fowler, Charles C., Lovilia (L.M.)
 Fowler, Willis M., Iowa City
 Fox, Charles I., Pharr, Tex. (L.M.)
 Fox, Ray A., Charles City
 Fox, Stephan, Ottumwa
 Franchere, Chetwynd M., Mason City
 Franey, William E., Cedar Rapids
 Frank, Louis J., Sioux City
 Frank, Owen L., Maquoketa
 Franklin, George W., Jefferson (L.M.)
 Franklin, Murray, Iowa City
 Fransco, Peter P., Ruthven
 Fraser, James B., Des Moines
 Fraser, John H., Monticello
 Frech, Raymond F., Newton
 Frederickson, Adolph R., Lansing
 Freligh, Clarence N., Waucoma
 French, Royal F., Marshalltown
 French, Valiant D., St. Joseph, Mo.
 Frenkel, Hans S., Clarinda
 Friedman, Barry, Cleveland, Ohio
 Frink, Lyle F., Spencer
 Fritchen, Arthur F., Decorah
 Fritz, Lufe H., Dubuque (L.M.)
 From, Paul, Des Moines
 Frost, Loraine H., Iowa City
 Fry, Gerald A., Vinton
 Fuerste, Frederick, Dubuque
 Fullerton, Oscar L., Redding (L.M.)
 Fullgrabe, Emil A., Sioux City
 Gaard, Rasmus R., Radcliffe
 Galinsky, Leon J., Des Moines
 Gallagher, John P., Oelwein
 Galvin, Robert J., Oelwein
 Gamble, Robert A., Madrid
 Gamet, Elmo E., Lamoni
 Gano, James O., Ogden
 Gantz, Albert J., Greenfield
 Ganzhorn, Harold L., Mapleton
 Gardner, Harold O., Waterloo
 Gardner, John R., Lisbon (L.M.)
 Gardner, Paul E., New Hampton (L.M.)
 Garland, John C., Marshalltown
 Garred, John L., Whiting
 Garside, Arthur A., Davenport
 Garvy, Andrew C., Iowa City
 Gauger, John W., Early
 Gaukel, Leo A., Onawa
 Gearhart, George W., Springville
 Gearhart, Merriam, Bethany, Mo.
 Gee, Kenneth J., Shenandoah
 Geeseka, Otto A., Mount Pleasant (L.M.)
 Gelfand, Arthur B., Sioux City
 Gelfand, Ben B., Sioux City
 George, Everett M., Des Moines
 George, Louis A., Remsen
 Gerard, Russell S., II, Waterloo
 Gerken, James F., Waterloo
 Gernsey, Merritt N., Waverly (L.M.)
 Gerstman, Herbert, Marion
 Gessford, Howard H., George
 Getty, Everett B., Primghar
 Gibbon, William H., Sioux City
 Gibbs, George M., Burlington
 Gibson, Chelsea D., Sac City
 Gibson, Douglas N., Des Moines
 Gibson, Paul E., Des Moines
 Gibson, Preston E., Davenport
 Giegerich, Walter F., Atlantic
 Giles, Francis E., Iowa City
 Giles, George C., Oakland (L.M.)
 Gilfillan, Clarence D. N., Bloomfield
 Gilfillan, Earl E., Bloomfield
 Gilfillan, George W., Bloomfield
 Gilfillan, Homer J., Bloomfield
 Gillett, Francis A., Oskaloosa
 Gillies, Carl L., Iowa City
 Gillmor, Benjamin F., Red Oak (L.M.)
 Gingles, Earl E., Onawa
 Gittins, Thomas R., Sioux City
 Gittler, Ludwig, Fairfield
 Gladstone, William S., Jr., Iowa City
 Glasscock, Thomas J., Hawarden
 Gleeson, John J., Jr., Vail
 Glesne, Otto N., Fort Dodge
 Glomset, Daniel A., Des Moines
 Glomset, Daniel J., Des Moines
 Goad, Robley R., Muscatine
 Goddard, Chester R., Guttenberg
 Goebel, Clarence J., Sioux City
 Goen, Edwin J., Charles City
 Goenne, William C., Davenport
 Goenne, William C., Jr., Iowa City
 Goggins, John G., Ossian
 Goldberg, Louis, Des Moines
 *Goltry, Charles F., Russell (L.M.)
 Goodenow, Sidney B., Colo
 Goodman, Lawrence O., Marshalltown
 Gordon, Arnold M., Des Moines
 Gorrell, Ralph L., Clarion
 Gottlieb, Jacques S., Iowa City
 Gottsch, Edwin J., Shenandoah
 Gould, Aubrey V., Jr., Wilton Junction
 Gould, George R., Conrad (L.M.)
 Gould, Isaac L., Des Moines
 Gower, Walter E., Fort Dodge
 *Graening, Charles H., Waverly (L.M.)
 Graham, James W., Sioux City
 Grams, LaVerne F., Hartley
 Gran, Albert G., Storm Lake
 Grandinetti, Arthur F., Oelwein
 Grant, John G., Ames
 Grau, Amandus H., Denison
 Graves, Charles C., Jr., Des Moines
 Gray, Charles W., Oakdale
 Gray, Henry A., Keokuk (L.M.)
 Gray, John F., Melcher
 Gray, Ralph E., Eldora
 Greenblatt, Jerald, Cedar Rapids
 Greenhill, Solomon, Des Moines
 Greenleaf, John S., Iowa City
 Greteman, Theodore J., Dubuque
 Griffin, Charles C., Dyersville
 Griffin, Clark C., Jr., Vinton (L.M.)
 Griffin, Frank L., Baldwin
 Griffin, John M., Des Moines (L.M.)
 Griffin, Robert E., Sheldon
 Griffin, Sarah M. F., Manson
 Griffith, J. Edwin, Jr., Iowa City
 Griffith, William O., Council Bluffs
 Grimmer, George T., Iowa City
 Groben, Elmer S., Columbus Junction
 Gross, Worth M., Sioux City
 Grossman, Milton D., Sioux City
 Grossman, Raymond S., Marshalltown
 Grossmann, Edward B., Orange City
 Grothaus, Dell L., Delta
 Grubb, Merrill W., Galva
 Gugle, Lloyd J., Ottumwa
 Gunn, Ross E., Boone
 Gura, Henry H., Des Moines
 Gutch, Roy C., Chariton
 Gutch, Thomas E., Albion (L.M.)
 Gutenkauf, Charles H., Des Moines
 Hagen, Edward F., Decorah
 Haggard, David K., Hawarden
 Haines, Diederich J., Des Moines
 Hale, Albert E., Mason City
 Hall, Bonnybel A., Maynard
 Hall, Cluley C., Maynard
 Hall, Forest F., Webster City
 Halloran, William H., Audubon
 Halpin, Lawrence J., Cedar Rapids
 Hamilton, Benjamin C., Jr., Jefferson
 Hamilton, Cecil V., Garner
 Hamilton, Harriet S., Council Bluffs (L.M.)
 Hamilton, Henry E., Iowa City
 Hamilton, William K., Iowa City
 Hammer, Raymond W., Sioux City
 Hanchett, McMicken, Council Bluffs
 Hands, Sidney G., Davenport
 Hansell, William W., Des Moines
 Hansen, Fred A., Red Oak
 Hansen, Hans, Logan
 Hansen, Niels M., Des Moines
 Hansen, Robert R., Marshalltown
 Hansen, Russell R., Storm Lake
 Hanson, Carl A., Waterloo
 Hanson, Lawrence C., Jefferson
 Hansmann, Irving J., Council Bluffs
 Hardin, John F., Bedford
 Hardin, Robert C., Manchester, Conn.
 Hardwig, Oswald C., Waverly
 Hardwig, Robert P., Waverly
 Harken, Conrad R., Osceola
 Harkness, Gordon F., Davenport
 Harman, Clarence, Emerson
 Harman, Dean W., Glenwood
 Harms, George E., Norway
 Harnagel, Edward J., Des Moines
 Harness, William M., Iowa City
 Harp, John F., Newton (L.M.)
 Harper, George E., Fort Madison
 Harper, Harry D., Fort Madison
 Harper, William H., Jr., Keokuk
 Harrington, Arlan F., Cedar Rapids
 Harrington, Raymond J., Sioux City
 Harris, Clinton E., Grinnell
 Harris, D. Dale, Marshalltown
 Harris, Grover W., Marshalltown
 Harris, Herbert H., Sioux City
 Harris, Jack T., Luverne
 Harris, Ray R., Dubuque
 Hart, Paul V., Bancroft
 Hartley, Byron D., Mount Pleasant
 Hartman, Frank T., Waterloo (L.M.)
 Hartman, Howard J., Waterloo
 Hartshaw, John E., Sigourney
 Hartung, Walter, Davenport
 Harvey, David R. M., Iowa City
 Harvey, Glen W., Cedar Rapids
 Harwood, Arthur M., Sigourney
 Haufe, W. David, Bloomfield
 Havlik, Aloysius J., Tama
 Hawkins, Robert E., Council Bluffs
 Hayes, William P., Cedar Rapids
 Hayne, Willard W., Des Moines
 Hazlet, Kenneth K., Dubuque
 Heady, Conda C., Bloomfield (L.M.)
 Heald, Clarence L., Sigourney
 *Healy, Maurice A., Boone
 Heathman, Frank E., Pocahontas (L.M.)
 Hecker, John T., Cedar Rapids
 Heeren, Ralph H., Des Moines
 Heetland, Louis H., Sibley (L.M.)
 Heffernan, Chauncey E., Sioux City
 Hegg, Lester R., Rock Valley
 Heilmann, Elwood H., Ida Grove
 Heimann, Verne R., Sioux City
 Heinmiller, E. Clifford, Fort Madison
 Heise, Carl A., Jr., Jewell
 Heise, Harris R., Marshalltown
 Heitzman, Paul O., Cedar Rapids
 Heles, John B., Dubuque
 Henderson, Lauren J., Cedar Falls
 Henderson, Walker B., Oelwein
 Hendricks, Atlee B., Iowa City
 Hendrickson, Alvin H., Sioux City
 Henely, Edmund, Nora Springs
 Henkin, John H., Sioux City
 Henkin, William A., Des Moines
 Hennes, Raphael J., Oxford
 Hennessey, John M., Manilla

- Hennessy, Felix A., Calmar
Hennessy, J. Donald, Council Bluffs
Henningsen, Artemus B., Clinton
Henry, Clyde A., Farson (L.M.)
Henry, Hiram B., Des Moines
Henslin, Merrill E., Cresco
Henstorf, Harold R., Shenandoah
Herman, John C., Boone
Herny, Peter M., Prairie City
Herrick, Thomas G., Gilmore City
Herrick, Walter E., Ottumwa
Herrmann, Christian H., Jr., Amana
Hersch, Thomas F., Cedar Rapids
Hersey, Nelson L., Independence
Hess, Ardo M., West Union
Hess, John, Jr., Des Moines
Hesselschwerdt, Donald W., Iowa City
Hesser, Frederick H., Iowa City
Heusinkveld, Henry J., Clinton
Hickenlooper, Carl B., Winterset
Hickerson, Luther C., Brooklyn
Hickey, Robert C., Iowa City
Hicklin, Martin D., Burlington
Hickman, Charles S., Centerville
Hickner, Lawrence P., Council Bluffs
Hicks, Edgar O., Clinton
Hicks, Murwyn L., Dubuque
Hicks, Wayland K., Sioux City
Hieft, William B., Des Moines (L.M.)
Hilberg, Albert W., Iowa City
Hildebrand, Howard H., Ames
Hill, Christine E., Virginia Beach, Va. (L.M.)
Hill, Don E., Clinton
*Hill, James C., Newton
Hill, James W., Mount Ayr
Hill, Julia Ford, Des Moines (L.M.)
Hill, Lee F., Des Moines
Hill, Richard W., Lake Mills
Hills, Henry M., Lamoni (L.M.)
*Hills, Robert A., Russell
Hobart, Francis W., Lake City
Hoch, Carl W., Iowa City
Hoeven, Edward B., Ottumwa
Hoffman, Alfred A., Waterloo
Hoffman, Paul M., Tipton
Hoffman, Robert W., Des Moines
Hofmann, William P., Davenport
Hollander, Werner M., Davenport
Hollis, Edward L., Marengo
Holman, Henry D., Mason City
Holtey, Joseph W., Ossian
Hombach, Walter P., Council Bluffs
*Hombach, William P., Council Bluffs (L.M.)
Hommel, Placido R. V., Elkader
Honke, Edward M., Sioux City
Hooper, Lester E., Indianola
Hopkins, David H., Glidden
Hornaday, William L., Des Moines
Hosford, Horace F., Burlington
Heskins, James H., Des Moines
Hospodarsky, Leonard J., Ridgeway
Hotz, Edward J., Independence
Houghton, Earl J., Bettendorf
Houlahan, Jay E., Mason City
Houlihan, Francis W., Ackley
Houser, Blanche W., Cedar Rapids
Houser, Cass T., Cedar Rapids
Housholder, Harold A., Winthrop
Houston, Bush, Nevada
Howar, Bruce F., Webster City
Howard, Llovd G., Council Bluffs
Howe, Gerald W., Marengo
Howell, Elias B., Ottumwa
Hoyt, John L., Creston
Hruska, Glen J., Belmond
Huber, Robert A., Charter Oak
Huber, Robert H., Osage
Hudek, Joseph W., Garnavillo
Hudson, Jessie B., Sheffield
Huifman, William C., Iowa City
Hughes, Parker K., Des Moines
Hughes, Robert O., Ottumwa
Hull, Henry C., Jr., Washington (L.M.)
Hulse, Roy A., Burlington
Hungerford, Louis N., Jr., Keosauqua
Hunt, Van W., Mason City
Hunting, Ralph D., Cedar Rapids
Huntley, Charles C., Avoca
Hurevitz, Hyman M., Davenport
Huston, Daniel F., Burlington
Huston, Herbert M., Ruthven (L.M.)
Huston, Marshall D., Cedar Falls
Huston, Paul E., Iowa City
Hyatt, Charles N., Jr., Humeston
Hyndman, Olan R., Davenport
Ihle, Charles W., Cleghorn
Ingham, Paul G., Mapleton
Ingraham, David R., Sewal
Irish, Thomas J., Forest City
Irving, Noble W., Mission, Kan.
Isenbrg, Bertice A., Lohrville
Isham, Robert B., Osage
Jackson, James M., Jefferson
Jackson, James S., Mount Pleasant
Jackson, Robert L., Iowa City
Jacobs, Carl A., Sioux City
Jacoby, James A., Burlington
Jacques, Lewis H., Lone Tree
Jaenicke, Kurt, Clinton
James, Audra D., Des Moines
James, David W., Des Moines
James, Lora D., Fairfield
James, Peter E., Elk Horn
Jameson, Robert E., Davenport
Janse, Phillip V., Algona
January, Lewis E., Iowa City
Jardine, George A., New Virginia
Jarvis, Fred J., Oskaloosa (L.M.)
Jarvis, Harry D., Chariton
Jaskunas, Stanley R., Bloomfield
Jeans, Philip C., Iowa City
Jeffries, Milo E., Marshalltown
Jeffries, Roy R., Waukon
Jenkins, George A., Albia
Jenkins, George D., Burlington
Jenkins, Hanley F., Ogden
Jenkinson, Harry R., Iowa City
Jenks, Alonzo L., Jr., Des Moines
Jensen, Arthur E., Humboldt
Jensen, LeRoy E., Audubon
Jerdee, Ingebrecht C., Clermont
Jessup, Parke M., Muscatine
Jirsa, Harold O., Cedar Rapids
Johann, Albert E., Des Moines
Johnson, Aaron P., Sioux City
Johnson, Albert P., Sigourney (L.M.)
Johnson, Aldis A., Council Bluffs
Johnson, Clarence A., Coon Rapids
Johnson, Francis N., Madrid
Johnson, George M., Marshalltown
Johnson, G. Raymond, Ottumwa
Johnson, Harvey A., Atlantic
Johnson, J. A. William, Marshalltown
Johnson, Jonathan, Alden (L.M.)
Johnson, Merlin H., Iowa City
Johnson, Norman M., Clarinda
Johnson, Richard M., Denison
Johnson, Robert J., Iowa Falls
Johnson, Robert W., Clinton
Johnson, Wendell A., Emmetsburg
Johnson, William A., Iowa Falls
Johnston, C. Harlan, Des Moines
Johnston, Florence D., Cedar Rapids
Johnston, George B., Estherville
Johnston, Harry L., Ames
Johnston, Helen, Des Moines
Johnston, Howard H., Hampton
Johnston, Kenneth L., Oskaloosa
Johnston, Wayne A., Dubuque
Johnstone, Alexander A., Keokuk
Joiner, Bennett A., Iowa City
Jones, Cecil C., Des Moines
Jones, Charles L., Gilmore City
Jones, Clare C., Spencer City
Jones, Harold W., Sioux City
Jones, Harry J., Cedar Rapids
Jones, Louis H., Wall Lake (L.M.)
Jongewaard, Albert J., Jefferson
Jongewaard, Jean, Jefferson
Jongewaard, Robert E., Des Moines
Jordan, John W., Maquoketa
Jowett, John R., Clinton
Joynt, Albert J., Waterloo
Joynt, Martin J., LeMars
Joynt, Michael F., Marcus
Judiesch, Kenneth J., Iowa City
Junger, Emil C., Soldier
Jurgensen, William W., Sioux City
Kaack, Harry F., Jr., Clinton
Kadel, Merl A., Laurens
Kahler, Hugo V., Reinbeck
Kalar, Sara B., Ames
Kane, Thomas E., Boone
Kanealy, John F., Cedar Rapids
Kapke, Franklin W., Mason City
Kaplan, David D., Sioux City
Kas, Thomas D., Sutherland
Kasiske, Walter B., Keokuk
Kassmeyer, John C., Dubuque
Kast, Donald H., Des Moines
Katherman, Charles A., Sioux City
Katz, Irving A., Des Moines
Katzmann, Frederick S., Des Moines
Kauffman, William A., Marshalltown
Kaufman, Ernest L., Fort Atkinson (L.M.)
Keech, Roy K., Cedar Rapids
Keeling, Virgil C., Iowa City
Keen, Burlin E., Des Moines
Keeney, George H., Mallard
Keettel, William C., Jr., Iowa City
Kehoe, Joseph L., Davenport
Keil, Philip G., Des Moines
Keith, Charles W., Strawberry Point
Keith, John J., Marion
Kelberg, Melvin R., Sioux City
Kelley, Edmund J., Des Moines
Kelley, Lawrence E., Des Moines
Kelly, Dennis H., Des Moines
Kelly, John F., Sioux City
Kelly, Joseph L., Burlington (L.M.)
Kenefick, John N., Algona
Kennedy, Elizabeth S., Oelwein
Kennedy, William C., Somers
Keohen, Gerald F., Dubuque
Kern, Lester C., Waverly (L.M.)
Kerr, H. Dabney, Iowa City
Kerr, Johnson H., Akron
Kerr, W. Hawley, Hamburg
Kerr, William, Randolph
Kershner, Frank O., Clinton
Kersten, Ernest M., Fort Dodge
Kersten, Herbert, Fort Dodge
Kerwick, Joseph M., New Hampton
Kessel, James E., Des Moines (L.M.)
Kestel, John L., Waterloo
Ketner, Lester E., Oelwein
Kettelkamp, Enoch G., Monona
Keyser, Earl L., Marshalltown
Keyser, Ralph E., Marshalltown
Kieck, Ernest G., Cedar Rapids
Kienzle, William K., Wellsburg
Kiesau, Frederick W., Postville
Kiesau, Milton F., Postville
Kiesling, Harry F., Lehigh
Kilgore, Benjamin F., Des Moines
Kimball, John E., West Liberty
Kimberly, Lester W., Davenport
Kinard, Kenneth H., Iowa City
King, David H., Batavia (L.M.)
King, Dean H., Spencer
King, Harold N., Hampton, Va.
King, Oran W., Des Moines
King, Ray E., Des Moines
King, Ross C., Clinton
Kingsbury, Charles L., Keokuk
Kirch, Walter A., Des Moines
Kirkegaard, C. Smith, Estherville
Kirkendall, Walter M., Iowa City
Kitson, Walter W., Atlantic
Klein, John L., Jr., Muscatine
Klein, Robert F., Muscatine
Kleinberg, Henry E., Des Moines
Kline, Samuel, Sioux City
Klockslem, Harold L., Des Moines
Klockslem, Roy G., Rockwell City
Klok, George J., Council Bluffs
Kluver, Herman C., Fort Dodge
Knapp, Philip, Iowa City
Knight, Benjamin L., Cedar Rapids
Knight, Edson C., Marshalltown
Knight, Russell A., Rockford
Knipfer, Robert L., Jesup
Knoll, Alhert H., San Diego, Calif.
Knosp, Norman C., Belle Plaine
Knott, Peirce D., Sioux City
Knouf, Clare E., Lake City
Knowles, Fred L., Fort Dodge
Knudsen, Hubert K., Clinton
Koch, George W., Anaheim, Calif. (L.M.)
Koelling, Lloyd H., Newton
Koester, John F., Des Moines
Koontz, Lyle W., Vinton
Kopsa, Walter J., Tipton
Korfmacher, Edwin S., Grinnell
Kornder, Louis H., Davenport
Korns, Horace M., Iowa City
Kos, Clair M., Iowa City
Koser, Donald C., Cherokee
Krause, Charles S., Cedar Rapids
Kraushaar, Otto F., Iowa City
Krejsa, Oldrich, Cedar Rapids
Krepelka, George E., Osage
Krettek, John, Council Bluffs
Kridelbaugh, William W., Iowa City
Kriebs, Frank J., Elkport (L.M.)
Kriechbaum, Horace T., Davenport
Krigsten, Joe M., Sioux City
Krigsten, William M., Sioux City
Krouse, Howard, Iowa City
Krukenberg, William G., Cedar Rapids
Kruml, Joseph G., Council Bluffs
Kruise, Otto E., Tipton
Kuehn, Willard G., Clarinda
Kuhl, Augustus B., Davenport
Kuhl, Augustus B., Jr., Davenport
Kuhn, Leo C., Decorah
Kuhn, Mark A. R., Waterloo
Kuker, Leo H., Carroll
Kulp, Raymond R., Davenport
Kurth, Robert J., Waterloo
Kurtz, Cecilia M., Cedar Rapids
Kyle, William S., Washington
Labagh, Nicholas W., Mystic
*Ladd, Frederick G., Cedar Rapids (L.M.)
La Force, Edward F., Burlington (L.M.)
Lagen, Mansfield S., Iowa City

- Laidley, Wallace G., Ogden
 Lamb, Frederick H., Davenport
 Lamb, Harry H., Davenport
 Lambrecht, Paul, Des Moines
 Lande, Jacob N., Sioux City
 Landis, Sylvanus N., Des Moines
 Langford, William R., Cedar Rapids
 Langworthy, Henry G., Dubuque
 Lannon, James W., Mason City
 Larimer, Robert N., Sioux City
 Larsen, Elmer A., Centerville
 Larsen, Frank S., Fort Dodge
 Larsen, Harold T., Fort Dodge
 Larsen, Lawrence V., Harlan
 Larson, Andrew G., Dickens
 Larson, Gerald E., Elk Horn
 Larson, Lester E., Decorah
 Larson, Marvin O., Hawarden
 Latchem, Charles W., Des Moines
 LaTona, Joseph H., Council Bluffs
 Laughlin, Ralph M., Cedar Rapids
 Launder, Frank T., San Diego, Calif. (L.M.)
 Lavender, John G., George
 Lawlor, Jeremiah F., Cherokee
 Lawrence, Joseph W., Dubuque
 Layton, Jack M., Iowa City
 Lease, Nimrod J., Crawfordville (L.M.)
 Lederman, Joseph, Oskaloosa
 Lee, Gisle M., Thompson (L.M.)
 Lee, Otis S., Jr., Tulsa, Okla.
 Lee, Robert W., Alzona
 Lee, Wayne R., Burlington
 Lechey, Paul J., Independence
 Lehman, Emery W., Des Moines
 Lehr, Sylvan M., Cedar Rapids
 Leibovitz, Martin, Iowa City
 Leighton, Lewis L., Fort Dodge
 Leinbach, Samuel P., Belmont
 Leinfelder, Placidus J., Iowa City
 Leiter, Herbert C., Sioux City
 Leith, George G., Wilton Junction
 Lekwa, Alfred H., Story City
 Lemon, Kenneth M., Oskaloosa
 Lenaghan, Robert T., Clinton
 Lenzmeier, Albert J., Davenport
 Leonard, Earl R., Boise, Idaho
 Leonard, Frederick S., Dubuque
 LePoidevin, Jean S., Waterloo
 *Lessenger, Ernest J., New London
 Levin, Harry M., Waterloo
 Lewis, E. Faye C., Webster City
 Lewis, William B., Webster City
 Lichter, Theodore W., Edgewood
 Lierle, Dean M., Iowa City
 Lierman, Clifford E., Lake View
 Liken, John A., Creston
 Limbert, Edwin M., Council Bluffs
 Limburg, J. Irwin, Jefferson
 Limburg, John L., Jr., Jefferson
 Lincoln, Simon E., Des Moines
 Lindholm, Hugo A., Armstrong
 Lindley, Ellsworth L., Cedar Rapids
 Lindsay, Vernard T., Glidden
 Liska, Edward J., Ute
 Lister, Kenneth E., Ottumwa
 Litwiller, Raymond W., Cristobal, Canal Zone
 Lloyd, John M., Washington
 Locher, Robert C., Cedar Rapids
 Lock, Arthur L., Rock Valley
 Lockhart, Harold A., Cedar Rapids
 Lodwick, Gwilym S., Jr., Iowa City
 Loek, John F., Independence
 Loes, Anthony M., Dubuque
 Lohman, Frederick H., Waterloo
 Lohmann, Carl J., Burlington
 Lohr, Phillips E., Churdon
 Loizeaux, Charles E., Dubuque
 Long, Draper L., Mason City
 Longworth, Wallace H., Boone
 Loomis, Frederic G., Waterloo
 Loosbrock, John F., Perry
 Loose, David N., Maquoketa (L.M.)
 Lorfeld, Gerhard W., Davenport
 Losh, Clifford W., Des Moines
 Losh, Clifford W., Jr., Des Moines
 Love, Francis L., Iowa City (L.M.)
 Lovejoy, E. Parish, Des Moines
 Loveady, Ralph, Sidney
 Lovett, Charles E., Lineville
 Lovett, Earl D., Vinton
 Loving, Luther W., Estherville
 Lowry, Charles F., Council Bluffs
 Loxterkamp, Edward O., Rolfe
 Luck, Arthur G., Des Moines
 Luehrsmann, Bernard C., Dyersville
 Luehrsmann, Bernard H., Dyersville
 Lucinbuhl, Christian B., Des Moines
 Luke, Edward, Coin
 Lundwick, Arthur W., Gowrie
 Luse, Ralph F., Clinton
 Luton, John D., Sioux City
 Lyman, Frank L., Jr., Fort Madison
 Lynn, Arthur R., Marshalltown
 Lynn, Clarence E., Dubuque
 Lyons, Mary L., Des Moines
 MacLeod, Hugh G., Greene
 MacNaughton, Luther D., Eagle Grove
 McAllister, James, Odebolt
 McBride, James T., Des Moines (L.M.)
 McBride, Robert H., Sioux City
 McCaffrey, Eugene H., Des Moines
 McCall, John H., Allerton
 McCarl, J. Jay, Sac City
 McCarthy, Frank D., Sioux City
 McCartney, William H., Des Moines
 McClean, Earl D., Des Moines
 McClintock, John T., Iowa City (L.M.)
 McClure, Ernest C., Bussey (L.M.)
 McClure, Gail A., Ames
 McClurg, F. Haven, Fairfield
 McConkie, Edwin B., Cedar Rapids
 McConkie, Willis L., Carroll
 McCoy, Harold J., Des Moines
 McCrary, Ashton, Lake City
 McCrea, Eppie S., Eddyville (L.M.)
 McCreedy, Murry L., Washington
 McCreight, George C., Des Moines
 McCuiston, Harry M., Sioux City
 McCullough, John H., Waukon
 McDonald, Don J., Cedar Rapids
 McDonald, James E., Mason City (L.M.)
 McDowall, Gilbert T., Gladbrook
 McDowell, William O., Grundy Center
 McFadden, F. Ross, Davenport
 McFarland, Guy E., Ames
 McFarland, Guy E., Jr., Ames
 McFarland, Julian E., Ames
 McGahey, William B., Webster City
 McGarvey, Cornelius J., Des Moines
 McGill, Arthur A., Danbury
 McGilvra, Arthur L., Sioux Center
 McGinnis, George C., Fort Madison
 McGowan, Edwin C., Mount Pleasant
 McGrane, Merle J., New Hampton
 McGready, Joseph H., Independence (L.M.)
 McGuire, Kenneth L., Keota
 McGuire, Roy A., Fairfield
 McHugh, Charles P., Sioux City
 McIntosh, Philip D., Ottumwa
 McIntyre, Carl C., Waterloo
 McKay, Richard V., Jr., Dubuque
 McKean, Frank F., Allison
 McKirahan, Josiah R., Wayland
 McKitterick, John C., Burlington
 McLaglin, Charles W., Washington (L.M.)
 McLean, Ray A., Fayette (L.M.)
 McMahon, Thomas, Garner (L.M.)
 McMeans, Thomas W., Davenport
 McMillan, James T., III, Des Moines
 McMillen, Arch S., Fort Dodge
 McMurray, Edward A., Newton
 McNamara, Robert J., Dubuque
 McNamee, Jesse H., Des Moines
 McPherrin, Henry I., Des Moines (L.M.)
 McQuiston, J. Stuart, Cedar Rapids
 McTaggart, William B., Fort Dodge
 McVay, Melvin J., Lake City
 Mackin, M. Charles, Des Moines (L.M.)
 Macrae, James G., Creston
 Magaret, Ernest C., Glenwood
 Magdsick, Carl C., Iowa City
 Magee, Emery E., Waterloo
 Mahoney, James D., Council Bluffs
 Mailliard, Robert E., Storm Lake
 Maixner, William D., Ottumwa
 Maland, Donald O., Cresco
 Maloy, Warland H., Shenandoah
 Manning, Ephraim L., Davenport
 Mangan, J. Thomas, Forest City
 Mantz, Russell L., Cedar Rapids
 Maplethorpe, Charles W., Toledo
 Maplethorpe, Charles W., Jr., Toledo
 Marble, Edwin J., Marshalltown
 Marble, Ira A., Sheffield
 Marble, Pearl L., Liscomb (L.M.)
 Marble, Willard P., Marshalltown
 Marsh, George, Denver, Colo.
 Margulies, Harold, Des Moines
 Marinos, Harry G., Mason City
 Maris, Cornelius, Sanborn
 Maris, Gerrit, Hull
 Maris, William, Sioux Center
 Mark, Edward M., Clarksville
 Mark, Milton S., Des Moines
 Marker, John I., Davenport
 Marquis, Fred M., Waterloo
 Marquis, George S., Des Moines
 Marr, James, Genwood
 Marsh, Frederick E., Council Bluffs
 Marsh, Frederick E., Jr., Council Bluffs
 Martin, James W., Holstein
 Martin, John F., Latimer
 Martin, Josef R., Carroll
 Martin, Lee R., Council Bluffs
 Martin, Loran M., Fort Dodge
 Martin, Ronald F., Sioux City
 Martin, Sidney D., Carroll (L.M.)
 Mason, James R., Ainsworth
 Mason, Robert P., Des Moines
 Mason, Stella M., Mason City (L.M.)
 Masson, Hervey F., Washington
 Mast, Truman M., Washington
 Mater, Dwight A., Knoxville
 Mater, Roy V., Knoxville
 Matheson, John H., Des Moines
 Mathiasen, Aileen E., Council Bluffs
 Mathiasen, Emmett B., Council Bluffs
 Mathiasen, Henning W., Council Bluffs
 Mathiasen, John W., Council Bluffs
 Matthey Carl H., Davenport
 Matthey, Walter A., Davenport
 Mattice, Lloyd H., Sheldon
 Mattice, Roger J., Sioux Rapids
 Mauritz, Emory L., Des Moines
 Maxwell, Charles T., Sioux City
 Maxwell, John, What Cheer
 May, George A., Des Moines
 Maynard, James H., Shelby
 Mead, Frank N., Cedar Falls (L.M.)
 Meffert, Clyde B., Cedar Rapids
 Megorden, William H., Mount Pleasant
 Mellen, Robert G., Clinton
 Meredith, Loren K., Des Moines
 Merillat, Herbert C., Des Moines
 Merkel, Arthur E., Des Moines
 Merkel, Byron M., Des Moines
 Merrill, Charles H., Oskaloosa
 Merritt, Arthur M., Des Moines
 Merselis, Harold K., Audubon
 Mershon, Clinton E., Adel (L.M.)
 Meyer, Paul G., Manchester
 Meyer, Valentine J., Glenwood
 Meyers, Frank W., Dubuque (L.M.)
 Meyers, Henry A., Davenport
 Mieras, Marion D., Whittier, Calif.
 Mikelson, Clarence J., Waterloo
 Miller, Brownlow B., Tabor
 Miller, Chester L., Iowa City
 Miller, Donald F., Williamsburg
 Miller, Enos D., Wellman
 Miller, Howard L., Cedar Rapids
 Miller, Jay R., Wellman
 Miller, Lawrence A., North English
 Miller, Robert C., Waterloo
 Miller, Temple M., Muscatine
 Miller, Willbur R., Iowa City
 Miller, William B., Centerville
 Millice, Glenn S., Battle Creek
 Mills, Frank W., Ottumwa (L.M.)
 Miltner, Leo J., Davenport
 Minassian, Harootune A., Des Moines (L.M.)
 Minassian, Thaddeus A., Des Moines
 Miner, James B., Jr., Charles City
 Minkel, Roger M., Fort Dodge
 Mirick, Donald F., Iowa City
 Missman, Walter F., Klemme
 Mitchell, Claire H., Indianola
 Mitchell, John R., Des Moines
 Moe, Ralph H., Griswold
 Moen, Stanley T., Cedar Rapids
 Moerke, Robert F., Burlington
 Moershel, Henry G., Homestead
 Moershel, William J., Cedar Rapids
 Moffatt, Thomas W., St. Louis, Mo.
 Mol, Henry L., Grundy Center
 Monnig, Philip J., Des Moines
 Montgomery, Albert E., Battle Creek, Mich.
 Montgomery, George E., Ames
 Montgomery, Guy E., Washington
 Montgomery, J. Lesley, Des Moines
 Montz, Fred, Lowden
 Moon, Barclay J., Cedar Rapids
 Moore, Edson E., Fort Dodge
 Moore, Harold H., Ottumwa
 Moore, Harry's C., Clearfield
 Moore, Jesse C., Eldon
 Moore, Pauline V., Iowa City
 Moore, Richard M., St. Louis, Mo.
 Moorehead, Harold B., Underwood
 *Moran, Thomas A., Melros
 Mordaunt, Richard H., Nevada
 Morgan, Earl E., Sioux City
 Morgan, Fred B., Clinton (L.M.)
 Morgan, Harold W., Mason City
 Morgan, Paul W., Mason City
 Morgenthauer, Otis P., Templeton (L.M.)
 Moriarty, John F., Atlantic
 Moriarty, Lauren R., Villisca
 Morris, Lucien E., Iowa City
 Morris, Zenella E., N., Stockport (L.M.)
 Morrison, John R., Carroll
 Morrison, John W., Alta
 Morrison, Roland B., Carroll

- Morrison, Wesley J., Cedar Rapids (L.M.)
 Morrissey, George E., Davenport
 Morrissey, William J., Des Moines
 Morse, Charles H., Eagle Grove (L.M.)
 Morton, Elmer E., Manning (L.M.)
 Morton, Mathew T., Estherville
 Mosher, Martin L., Jr., Iowa City
 Mott, William H., Farmington (L.M.)
 Mountain, George E., Des Moines
 Moyers, Jack, Iowa City
 Mueller, Albert C., Monona
 Mugan, Robert C., Sioux City
 Mulder, Lambertus, Hospers
 Mullmann, Arnold J., Perry
 Mulsow, Frederick W., Cedar Rapids
 Munger, Elbert E., Jr., Spencer
 Murchison, Kenneth, Sidney
 Murphey, Arlo L., Fredericksburg
 Murphy, Cornelius B., Alton
 Murphy, George C., Waterloo
 Murphy, James H., Des Moines
 Murphy, James J., Cedar Rapids
 Murray, Frederick G., Cedar Rapids
 Murray, Jonathan H., Burlington
 Murtaugh, James E., New Hampton
 Myerly, William H., Des Moines
 Myers, Edward M., Dallas, Texas (L.M.)
 Myers, Judson W., Postville
 Myers, Kermit W., Sheldon
 Myers, Robert W., Monticello
 Nakashima, Victor K., Des Moines
 Nash, Edwin A., Ottumwa
 Nauman, Ernest C., Waterloo
 Neagle, Paul E., Calmar
 Neal, Emma J., Cedar Rapids
 Nederhiser, Morgan I., Cascade
 Needles, Roscoe M., Atlantic
 Neglia, Fortunato J., Maxwell
 Nelken, Leonard, Clinton
 Nelken, Viola D., Clinton
 Nelson, Arnold L., Des Moines
 Nelson, Frederick L., Ottumwa
 Nelson, Frederick L., Jr., Ottumwa
 Nelson, Harry E., Dayton (L.M.)
 Nelson, Leo C., Jefferson
 Nelson, Paul O., Emmetsburg
 Nelson, Robert J., Clinton
 Neme, Joseph J., Cedar Rapids
 Nemmers, Gerald J., Washington
 Netolicky, Robert Y., Cedar Rapids
 Neufeld, Robert J., Davenport
 Neuzil, William J., Cedar Rapids
 Newland, Don H., Belle Plaine
 Newman, Robert W., Iowa City
 Niblock, George F., Derby
 Nicholson, Clyde G., Des Moines
 Nicholson, Richard W., Paton
 Nicoll, Charles A., Panora
 Nicoll, David T., Mitchellville (L.M.)
 Nielsen, Arnold T., Ankeny
 Nielsen, Rudolph F., Cedar Falls
 Nielson, Arthur L., Council Bluffs
 Niemann, Theodore V., Brooklyn
 Nierling, Paul A., Cresco
 Noble, Nelle S., Des Moines
 Noble, Rusl P., Alta
 Noé, Carl A., Cedar Rapids
 Noé, Charles F., Amara (L.M.)
 Nolan, John C., Corning
 Noltensmeyer, Milton H., Iowa City
 Noonland, Ruben, Iowa City
 Noonan, James J., Marshalltown
 Nord, Donald H., Cambridge
 Nordin, Charles A., Des Moines
 Nordstrom, Joel E., Ames
 Normont, John E., Clinton
 Norris, Lewis D., Des Moines
 North, Frank R., Winfield
 Norton, Alva C., Rockwell City (L.M.)
 Noun, Louis J., Des Moines
 Noun, Maurice H., Des Moines
 Nourse, Leslie M., Des Moines (L.M.)
 Null, Frederick F., Hawarden
 Nyquist, David M., Eldora
 Ober, Frank G., Burlington
 O'Brien, Lylal J., Fort Dodge
 O'Brien, Stephen A., Mason City
 O'Connor, Edwin C., New Hampton
 O'Donnell, Joseph E., Clinton
 O'Donoghue, Archibald F., Sioux City
 O'Donoghue, James H., Storm Lake
 Oelrich, Carl D., Sioux Center
 Oesterlin, Ernst J., Mount Pleasant
 Oggel, Herman D., Maurice (L.M.)
 O'Keefe, John E., Waterloo (L.M.)
 O'Keefe, Paul T., Waterloo
 Okerlin, Oscar W., Essex (L.M.)
 O'Leary, Francis B., Sibley
 Olsen, Martin I., Des Moines
 Olsen, Ranald E., Milton
 Olson, Evelyn M., Winterset
 Olson, Nels, Lake Mills
 Olson, Russell L., Northwood
 O'Neal, Harold E., Tipton
 Osborn, C. Robert, Dexter
 Osineup, Paul W., Sioux City
 Osten, Burdette H., Northwood
 O'Toole, Laurence C., LeMars
 O'Toole, Roger L., Waterloo
 Otto, Paul C., Fort Dodge
 Owen, William E., St. Ansgar
 Owen, William R., Osage
 Pace, Arthur A., Toledo (L.M.)
 Page, Elizabeth B., Keokuk
 Page, Wesley M., Montezuma
 Pagelsen, Otto H., Iowa Falls (L.M.)
 Pahlas, Henry M., Dubuque
 Paige, Ralph T., LaPorte City
 Painter, J. Carl, Dubuque
 Palmer, Carson W., Guttenberg
 Palmer, Howard C., Nichols
 Palumbo, Louis T., Des Moines
 Paragas, Modesto R., Creston
 Parish, John R., Grinnell
 Parke, John, Cedar Rapids
 Parker, Edward S., Ida Grove (L.M.)
 Parker, Loran F., Iowa Falls
 Parker, Robert L., Des Moines
 Parks, Claude O., Iowa City
 Parry, Roy E., Scranton
 Parsons, John C., Des Moines
 Paschal, George A., Webster City
 Pascoe, Paul L., Carroll
 Patterson, John N., Burlington (L.M.)
 Patterson, Roy A., Webster City
 Paul, John D., Anamosa
 Paul, Richard E., West Des Moines
 Paul, Robert D., Anamosa
 Paul, William D., Iowa City
 Paulsen, Herbert B., Harris
 Paulus, Edward W., Iowa City
 Paulus, James W., Dubuque
 Payne, Roswell H., Exira
 Pearlman, Leo R., Des Moines
 Pearson, George J., Burlington
 Peart, John C., Davenport
 Peasley, Harold R., Des Moines
 Peck, Raymond E., Davenport
 Pedersen, Arthur M., Council Bluffs
 Peggs, Harold J., Creston
 Peisen, Conan J., Des Moines
 Pelz, Werner P., Charles City
 Pence, James W., Columbus Junction
 Penly, Don H., Cedar Falls
 Penn, Eugene C., West Des Moines
 Perel, Ada R., Iowa City
 Perkins, Franklin C., Hedrick
 Perkins, Rollin M., Davenport
 Perley, Arthur E., Waterloo
 Perman, Harvey H., Forest City
 Perrin, H. Joyce, Des Moines
 Peschau, Waldo E., Cedar Rapids
 Petersen, Donal C., Burlington
 Petersen, Emil C., Atlantic
 Petersen, Millard T., Atlantic
 Petersen, Robert E., Iowa City
 Petersen, Vernon W., Clinton
 Peterson, Evan A., Burlington
 Peterson, Frank R., Cedar Rapids
 Peterson, John C., Hartley
 Peterson, Ray W., Clear Lake
 Pfeiffer, Donald W., McGregor
 Pfeiffer, Ernest, Hartley
 Pfeiffer, Harry E., Cedar Rapids
 Pfohl, Anthony C., Dubuque
 Pfundt, Theodore R., Norman, Okla.
 Phelan, Mary P., Altoona
 Phelps, C. Ray, Ottumwa
 Phelps, Gardner D., Waterloo
 Phelps, Richard E. H., New Sharon
 Phetepace, Willard S., Davenport
 Phifer, Robert L., Davenport
 Philipp, Roy J., Iowa City
 Phillips, Albin B., Clear Lake (L.M.)
 Phillips, Allan B., Des Moines
 Phillips, Clarence P., Muscatine
 Phillips, I. Hildreth, Missouri Valley
 Phillips, Walter B., Montezuma
 Piburn, Marvin F., Preston
 Pickard, John C., Dubuque
 Piekenbrock, Frank J., Dubuque
 Piercy, Kenneth C., Ames
 Pierson, Lawrence E., Sioux City
 Pituck, Harry L., Laurens
 Plankers, Arthur G., Dubuque
 Plass, Everett D., Iowa City
 Poepsel, Frank L., West Point
 Ponseti, Ignacio V., Iowa City
 Poore, Samuel D., Villisca
 Poppen, Donald V., Iowa City
 Porter, Charles E., Redfield
 Porter, Richard C., Des Moines
 Porter, Robert J., Des Moines
 Porter, S. Dale, Grinnell
 Posner, Edward R., Des Moines (L.M.)
 Posner, Edward R., Jr., Des Moines
 Powell, Adrian R., Elkader
 Powell, Burke, Albia (L.M.)
 Powell, Lester D., Des Moines
 Powell, Robert A., Shenandoah
 Powell, Velura E., Red Oak (L.M.)
 Powers, George H., Shenandoah
 Powers, Henry R., Emmetsburg
 Powers, Ivan R., Waterloo
 Powers, John L., Estherville
 Preece, Wade O., Waterloo
 Prentice, George L., Bloomfield
 Prescott, Kenneth H., Storm Lake
 Presnell, J. William, Scranton (L.M.)
 Presnell, William H., Charlotte
 Preston, Frederick W., Mason City
 Prettyman, Oscar R., Manson
 Prewitt, Leland H., Ottumwa
 Price, Alfred S., Des Moines
 Priessman, Frank A., Keokuk
 Priestley, Joseph B., Des Moines
 Pringle, Jess A., Oconomowoc, Wisc. (L.M.)
 Proctor, Rothwell D., Cedar Rapids
 Prouty, James V., Cedar Rapids
 Province, William, Jr., Dubuque
 Ptacek, Joseph L., Webster City
 Pugh, Philip F. H., Sioux City
 Pullman, Norman K., Valley Springs, S.D.
 Pumphrey, Loira C., Keokuk
 Punteneey, Andrew W., Boone
 Purdy, William O., Des Moines
 Putnam, Chester L., Des Moines
 Quinn, Francis P., Dubuque
 Quirin, Lloyd F., Des Moines
 Radcliffe, Christian E., Iowa City
 Rahn, Gordon E., Mount Vernon
 Ralston, Furman P., Knoxville
 Rambo, Cyrus C., Creston
 Rambo, David T., Ottumwa (L.M.)
 Ramsdell, Stuart T., Clarinda
 Randall, John H., Iowa City
 Randall, Ross G., Waterloo
 Randall, William L., Hampton
 Rankin, Isom A., Iowa City
 Rankin, John R., Keokuk
 Rankin, William, Keokuk
 Ransom, Harry E., Des Moines
 Rater, David L., Ottumwa
 Rathe, Herbert W., Waverly
 Rausch, Gerald R., Sioux City
 Redmond, James J., Cedar Rapids
 Redmond, Thomas M., Monticello
 Reed, Andrew L., Estherville
 Reed, Guy P., Davis City (L.M.)
 Reed, Paul A., Iowa City (L.M.)
 Reed, Purl E., Council Bluffs
 Reed, Robert J., Des Moines
 Reeder, James E., Sioux City
 Reeder, James E., Jr., Sioux City
 Reedholm, Edwin A., Grundy Center
 Reiley, William S., Red Oak (L.M.)
 Reimers, Robert S., Fort Madison
 Reinecke, Edward L., Dubuque (L.M.)
 Reinsch, Frank, Ashton
 Rembolt, Ray R., Iowa City
 Renne, William G., Sigourney
 Render, Norman D., Clarinda
 Reuber, Roy N., Mason City
 Reuling, Frank H., Waterloo
 Reynolds, Albert C., Des Moines (L.M.)
 Rhode, Marvin C., Iowa City
 Rhodes, John M., Pocahontas
 Rice, Floyd W., Des Moines
 Richardson, Leon F., Collins
 Richey, Granville L., Centerville
 Richmond, Arthur C., Fort Madison
 Richmond, Frank R., Fort Madison
 Richmond, Paul C., New Hampton
 Richter, Harold J., Albia
 Ridenour, Joseph E., Waterloo (L.M.)
 Rider, Harmon E., Sioux City
 Riegeiman, Ralph H., Des Moines
 Rienets, John H., Cedar Rapids
 Riess, Stephen, Cedar Rapids
 Riggert, Leonard O., Clinton
 Rimel, George W., Bedford
 Ringena, Engelke J., Brooklyn
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- THE ETHICAL BASIS OF MEDICAL PRACTICE—By *Willard L. Sperry*, Dean of Harvard Divinity School. Foreword by *J. Howard Means*, M.D. Paul B. Hoeber, Inc., New York, 1950. Price \$2.50.
- MERCK MANUAL OF DIAGNOSIS AND THERAPY—Published by Merck and Co., Inc., Rahway, N. J., 1950. Price \$5.00.
- PARKINSON'S DISEASE—By *Walter Buchler*. Walter Buchler, London, 1950. Price \$1.00.
- PRACTICE OF MEDICINE—By *Jonathan Campbell Meakins*, C.B.E., M.D., L.D.S., D.Sc., Formerly Professor of Medicine and Director of the Department of Medicine, McGill University; Formerly Physician-in-chief, Royal Victoria Hospital, Montreal; Formerly Professor of Therapeutics and Clinical Medicine, University of Edinburgh; Fellow of the Royal Society of Edinburgh; Fellow of the Royal Society of Canada; Fellow of the Royal College of Physicians, Edinburgh; Honorary Fellow of the Royal College of Surgeons, Edinburgh; Fellow of the Royal College of Physicians, Canada; Fellow of the American College of Physicians; Honorary Fellow of the Royal Society of Medicine. C. V. Mosby Co., St. Louis, 1950. Price \$13.50.
- PRIMER FOR DIABETIC PATIENTS—By *Russell M. Wilder*, M.D., Ph.D., F.A.C.P., Professor and Chief of Department of Medicine of Mayo Foundation, University of Minnesota; Senior Consultant in the Division of Medicine, Mayo Clinic. W. B. Saunders Co., Philadelphia, 1950. Price \$2.25.
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- SEX WITHOUT FEAR—By *S. A. Lewin*, M.D. and *John Gilmore*, Ph.D. Foreword by *Sarah K. Greenberg*, M.D. Lear Publishers, New York, 1950. Price \$3.00.
- TEXTBOOK OF ENDOCRINOLOGY—Edited by *Robert H. Williams*, M.D., Executive Officer and Professor of Medicine, University of Washington Medical School, Seattle. With the Collaboration of *Peter H. Forsham*, *Harry B. Friedgood*, *John Eager Howard*, *Edwin J. Kepler*, *William Locke*, *L. Harry Newburgh*, *Edward C. Reifenstein, Jr.*, *William W. Scott*, *George Van S. Smith*, *George W. Thorn*, *Lawson Wilkins*. W. B. Saunders Co., Philadelphia, 1950.
- 1949 YEARBOOK OF ENDOCRINOLOGY, METABOLISM AND NUTRITION—By *Willard O. Thompson*, M.D., Clinical Professor of Medicine, University of Illinois College of Medicine; Attending Physician (senior staff) Henrotin Hospital; Attending Physician, Grant Hospital of Chicago; and *Tom D. Spies*, M.D., Chairman, Department of Nutrition and Metabolism, Northwestern University School of Medicine; Director, Nutrition Clinic, Hillman Hospital, Birmingham, Ala. Year Book Publishers, Inc., Chicago, 1950. Price \$4.75.

BOOK REVIEWS

Normal Values in Clinical Medicine, by *F. William Sunderman*, M.D., Ph.D., and *Frederick Boerner*, V.M.D. (W. B. Saunders Co., Philadelphia, \$14.00). The question "What is the normal value?" is one which plagues the practitioner daily. The question is seldom answered because of the discouraging necessity of a tiresome search of medical literature whenever it arises.

As much information as one could possibly hope for, in the way of normal values and norms, is assembled in this splendid compilation of Sunderman and Boerner. Thorough and concise, the work includes numerous tabulations of normal values pertaining to cardiology, hematology, respiration, gastroenterology, neurology, urology, gynecology, obstetrics, orthopedics, dermatology, ophthalmology, otology, rhinology and dentistry. There are 12 excellent chapters dealing with chemical components and physical properties of the blood. There are chapters on anatomic normals, metabolic normals, and growth, height and weight standards. The short chapter on normal body temperature is worthy of the perusal of every physician. The final section entitled "Miscellaneous Data" includes a brief, informative discussion of statistical methods. It considers food values, drugs and their doses, isotopes, including life and actuarial tables. An appendix of weights, measures and standards completes the volume. This book is recommended to every physician, medical student and medical librarian.—*R. F. Birge*, M.D.

Atlas of Human Anatomy; Descriptive and Regional, by *M. W. Woerdemann*, M.D., F.R.N.A.Sc. (Blakiston Co., Philadelphia, \$10.00). This new atlas of human anatomy contains beautifully executed drawings made from original dissections, printed on fine quality paper. Black and white is used, except that diagrammatic illustrations of muscles are in red. The BNA terminology in Latin is used with additional notes in English. An atlas of anatomy such as this will be of great service to the medical profession in these days when material for anatomic dissection is becoming increasingly scarce. The author deserves great praise for the enormous amount of work necessary to produce such a useful book, which is recommended without qualification.—*J. M. Bruner*, M.D.

The 1949 Year Book of Drug Therapy, edited by *Harry Beckman*, M.D. (The Year Book Publishers, Inc., Chicago, \$4.75). The busy practitioner cannot keep abreast of the rapid changes in the entire field of drug therapy. The few journals he can read or the sales literature he glances at casually are not an adequate basis for the therapeutic program. Dr. Harry Beckman has carefully selected the outstanding articles of the year and abstracted them under such headings as allergy, cardiovascular disease, dermatology and endocrinology. This classification system makes the book interesting just to read. The index can be used for a quick reference for a specific drug treatment.—*G. H. White*, M.D.

The Eye and its Diseases, by 92 International Authorities, edited by *Conrad Berens*, M.D., F.A.C.S. (W. B. Saunders Co., Philadelphia, \$16.00) is a compilation of ophthalmic subjects by some 92 authorities. The text is presented in major groupings divided into chapters, each covering individual subjects, many of which are short and concise but well packed with useful information. The more important intraocular conditions and eye diseases affected by recent advances seem to be given more extensive coverage. The newer drugs, newer equipment, advances in surgical treatment and other recent medical progress, as related to eye disease, seem to be well covered in this second edition of Conrad Berens' book.

For a book prepared by so many authors, one cannot help being impressed by the uniformity and clearness with which each subject is presented. The book not only is interesting reading but is full of up-to-date information on ophthalmology. It is presented in language any practitioner, no matter what field of medicine he is interested in, can readily enjoy reading, understand and make use of. This book naturally is not an ordinary textbook, but is a volume well worth having as a reference and source of information on recent advances in ophthalmology.—G. A. May, M.D.

Fractures, by *Paul B. Magnuson*, M.D., F.A.C.S., and *James K. Stack*, M.D., F.A.C.S. (J. B. Lippincott Co., Philadelphia, \$7.00). Drs. Magnuson and Stack have again, in the fifth edition of their book, attempted to continue fundamental procedures in the treatment of fractures that do not vary from year to year. However, the impact of experiences in the use of antibiotics and the treatment of fractures as carried out in World War II have necessitated a revision of the material presented in previous editions. This book will prove of value to any physician treating fractures as it includes hints as to simple methods which may be used with safety under almost all conditions. Numerous illustrations add to the ease with which their recommended measures may be understood.—E. M. George, M.D.

Diagnosis and Treatment of Brain Tumors and Care of the Neurosurgical Patient, by *Ernest Sachs*, A.B., M.D. (C. V. Mosby Co., St. Louis, \$15.00), is the second edition, or rather the compounding of two former editions of separate books, *The Diagnosis and Treatment of Brain Tumors* and *The Care of the Neurosurgical Patient, Before, During and After Operation*, both of which have been found to be valuable to the medical student and those interested in neurologic surgery and its allied fields.

The book is well illustrated with photographs and drawings which are clear, accurate and vividly illustrate technical procedures. There are 15 chapters, the first three of which deal with the anatomy, physiology and methods of examination of the nervous system and the pathology of brain tumors. The fourth chapter is a consideration of the symptoms and signs of increased intracranial pressure and is

closed by a warning not to do lumbar punctures in the presence of choked disc unless such a procedure is absolutely necessary for diagnostic purposes. The fifth and seventh chapters deal with various types of tumors of the cerebrum, cerebellum and medulla and disturbances of function of the pituitary gland. Chapter eight takes up the differential diagnosis of brain tumors from conditions simulating and associated with intracranial new growths. Chapters nine and ten have to do with anesthesia, both general and local, and technics used in neurosurgical operative procedures. Chapter 11 concerns itself with specific cases and includes the treatment of tic douloureux, glossopharyngeal neuralgia, hydrocephalus, cranioplastic procedures, subdural hematoma, compound fractures and methods for the treatment of Jacksonian epilepsy. Chapter 12 is a comprehensive discussion of spinal and peripheral nerve operations and includes chordotomy, spina bifida and dislocated nucleus pulposus. Chapter 13 is a brief section on the closure of wounds. The author fully appreciates that the success or relative failure of a neurosurgical procedure may be greatly influenced by the proper closure of the wound. The fourteenth chapter accentuates the importance of postoperative care in relationship to reduction of patient morbidity and mortality. The last chapter reviews briefly the early beginnings of neurosurgery with some of its progress and closes with a glimpse of future developments now being formulated.

The entire work shows much attention to detail and a practical approach to neurosurgical practice. The author propounds the concept that the neurosurgeon must be prepared not only to assume the responsibility for technical surgical procedures, but also for the interpretation of diagnostic methods which will determine operative interference and the type of procedure to be used.—H. G. Decker, M.D.

The Arthropathies, A Handbook of Roentgen Diagnosis, by *Alfred A. de Lorimier*, M.D. (The Year Book Publishers, Chicago, \$7.00). Dr. de Lorimier has improved a most practical diagnostic atlas on the subject of arthropathies. All of the illustrations have been newly made and include many new subjects not found in the original volume. The text is so arranged that the various changes which occur with the different types of joint derangement may be easily compared. This is a book which can be used every day by every physician utilizing roentgenographic studies of the joints of the body.—E. M. George, M.D.

1949 Yearbook of Orthopedics and Traumatic Surgery, by *Edward L. Compere*, M.D., F.A.C.A. (Year Book Publishers, Inc., Chicago, \$5.00). Again Dr. Compere has presented a noteworthy selection of the advances made in orthopedic and traumatic surgical procedures during the year. This volume is recommended to all physicians who desire to remain informed regarding significant contributions to the literature made during 1949.—E. M. George, M.D.

Manual of Medical Emergencies, by *Stuart C. Cullen*, M.D. (The Year Book Publishers, Chicago, \$3.75) is a valuable manual for the busy physician. Many situations are reviewed, and treatment is given in a manner that is clear and concise. This volume is probably familiar to Dr. Cullen's students and is recommended to all physicians for a handy reference manual.—E. C. Penn, M.D.

Brucellosis (Undulant Fever), by *Harold J. Harris*, M.D. (Paul B. Hoeber, Inc., New York, \$10.00). This second edition represents an enlargement of a monograph regarding a disease which is one of the most widespread in the United States. The author utilizes both his wide experience and the literature to compile a complete study of all aspects of brucellosis. Not only are the known facts reviewed, but there is discussion of controversial subjects, such as diagnostic methods. The last chapter concerns the use and efficacy of the newer antibiotics in the treatment. The book is a valuable reference, being of greatest value perhaps to the general practitioner who usually has the first opportunity to observe and diagnose the condition. The text is concise, the index complete, and the bibliography all-inclusive to provide reference to the clinician desiring to do further study.—M. E. Alberts, M.D.

Mitchell-Nelson Textbook of Pediatrics, edited by *Waldo E. Nelson*, M.D. (W. B. Saunders Co., Philadelphia, \$12.50). This fifth edition of Mitchell-Nelson's textbook gives ample evidence that it will remain the standard text for those who treat children. Extensive revisions have been made in all major sections of the book and work done only three to four months in advance of publication receives mention. The section on "Growth and Development" and that on "Congenital Malformations" are among the best available. A number of entirely new sections have been added, and the new edition is noticeably larger than its predecessor. The style, format and editing make the information easily available so that the text becomes an excellent basic source book for pediatrics.—J. R. Mitchell, M.D.

Questions and Answers, Medical State Board, by *Max Goepp*, M.D., and *Harrison F. Flippin*, M.D. (W. B. Saunders Co., Philadelphia, \$7.00) is the eighth edition of a well known compilation of questions frequently propounded in the medical examinations of the various state boards. A thorough attempt to bring the new material up-to-date has been made. For instance, a brief addition on psychiatry has been included in the section in the practice of medicine. Newer drugs and therapeutic procedures have been added throughout the volume. The value of this book to anyone desiring a comprehensive review of medical questions remains unapproached by any other treatise on this subject.—E. M. George, M.D.

May's Manual of The Diseases of The Eye, by *Charles A. Perera*, M.D. (Williams and Wilkins Co., Baltimore, \$5.00), is the twentieth edition of this well known text, the first edition of which was published in 1900, and it has been brought entirely up-to-date, especially with respect to the new antibiotics. Written for the medical student and general practitioner, it gives a comprehensive review of all diseases of the eye and its adnexa. Each chapter is preceded by a short description of anatomy and physiology. The subject matter is covered in a clear and concise manner, and most of the content is in keeping with well established practice.

There are a few points with which the reviewer may take issue. One is the handling of cases of myopia, for which limitation or complete abstinence from close work is recommended. This idea can hardly stand up in the light of the modern theories of myopia. Another unusual conception is the treatment of iritis by colonic irrigations to overcome so-called autointoxication.

The chapters on optics and refractions are well written but seem to be too detailed for the general practitioner. The same is true for the chapter on compensation for injuries. On the other hand one would like to see more space given to general diseases and their relation to optic symptoms.—H. H. Gurau, M.D.

A Manual of Cardiology, by *Thomas J. Dry*, M.A., M.B., Ch.B., M.S. (W. B. Saunders Co., Philadelphia, \$5.00). The second edition of this well organized little text proves once again how well a large subject can be compressed by a skillful author. Despite the swift advance in knowledge of the physiology and pathology of heart disease, Dr. Dry has again presented his subject accurately, precisely and briefly. He has managed to be surprisingly unbiased in the presentation of most data without being overly academic in his discussion. The section on electrocardiography, as an example, presents enough material so that the relatively inexperienced physician could use his electrocardiograms effectively in certain important situations.

Most physicians using this manual will want it for purposes of quick reference when they are faced with a specific problem. The likelihood of finding the answer they seek in this book is very good. A more comprehensive discussion can be found in other texts either from the references in the manual or from current medical journals.

The only objection of any significance which I have to the manual is the binding. The copy which I was given to review had a stiff cover which cracked very easily. Since it is a book likely to be carried about and kept in a convenient corner for frequent reference, it should have a more secure binding.—Harold Margulies, M.D.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. CLAIRE H. MITCHELL, Indianola

President-Elect—MRS. HOWARD W. SMITH, Woodward

Secretary—MRS. RALPH J. SELMAN, Ottumwa

Treasurer—MRS. DWIGHT C. WIRTZ, 449-56th St., Des Moines

SPRING COUNCIL MEETING

A meeting of 22 state officers and chairmen of standing committees was held at Hotel Savery, Des Moines, on May 17. Mrs. C. H. Mitchell, president, presided. The treasurer reported a balance of \$1,197.02 to date, and the Nurses' Loan Fund has a balance of \$408.19. Only one girl is being accommodated by the fund at present, and it will be necessary to increase the income considerably to make the fund really worthwhile. The treasurer reported a state membership of 756.

A resolution was adopted permitting the president to sign vouchers with the authority to obtain the secretary's signature later in order to keep bills paid to date as much as possible. Mrs. M. H. Brinker, chairman of the Finance Committee, presented the following budget which was accepted:

<i>Estimated Receipts:</i>	
Dues—750 members at \$2.00.....	\$1,500.00
Medical Society	250.00
Total	\$1,750.00
<i>Estimated Expenses:</i>	
National dues	\$ 750.00
Printing and supplies	125.00
Postage—administration	75.00
Telephone—administration	75.00
President's expenses	150.00
President-elect's expenses	50.00
Annual state meeting expenses	150.00
Special projects—committee expense	100.00
Organization—including postage and telephone.....	250.00
Miscellaneous	25.00
Total	\$1,750.00

A systematic attempt is being made to secure a correct membership list. Public relations is stressing the promotion of voluntary health insurance, obtaining resolutions against socialized medicine and urging creation of emergency medical setups. Nurse recruitment will also continue as a state project.

Mr. I. W. Myers, legal consultant to the Iowa State Medical Society, addressed the group about civic awareness. He emphasized that doctors, their wives and families must not only register, but vote, and take it upon themselves to see that others vote, too. The election of Mr. Smathers over Senator Pepper in Florida was a district political triumph since Senator Pepper has been an outspoken advocate of socialized medicine. One Florida doctor alone wrote 22,000 letters requesting people to vote for Mr. Smathers. On election day in Florida many doctors closed their offices to participate in the political activity. Funeral directors were hired to carry the crippled and infirm to the polls in their ambulances. There is much to be learned from this example.

Results don't just happen. Work is the backbone. Leadership training for county officers was again recommended through the medium of district meeting held in conjunction with the doctors when their district meetings convene.

The next annual meeting will be held at Sioux City April 22-25, 1951, with headquarters at the Hotel Warrior.

Mrs. K. M. Chapler

STATE EXECUTIVE PERSONNEL

President—Mrs. C. H. Mitchell, Indianola

President-Elect—Mrs. H. W. Smith, Woodward

First Vice President—Mrs. J. D. Hennessy, 295 Oakland Ave., Council Bluffs

Second Vice President—Mrs. C. H. Coughlan, 629 11th Ave. N., Fort Dodge

Secretary—Mrs. R. J. Selman, 707 Glenwood, Ottumwa

Treasurer—Mrs. D. C. Wirtz, 449 56th, Des Moines

Assistant Treasurer—Mrs. J. F. Throckmorton, 2912 Woodland, Des Moines

Directors—

Mrs. J. C. Decker, 722 36th, Sioux City

Mrs. G. B. Crow, 2101 Sunnyside, Burlington

Mrs. Fred Moore, 634 40th, Des Moines

Councilors—

Mrs. R. M. Minkel, 422 N. 14th, Fort Dodge

Mrs. J. F. Veltman, Winterset

Mrs. R. M. Needles, Atlantic

Mrs. J. W. Lawrence, 115 Fremont, Dubuque

Mrs. L. A. Coffin, Farmington

Chairmen of Standing Committees—

Archives: Mrs. Fred Moore, 634 40th, Des Moines

Annual Meeting: Mrs. L. E. Pierson, 3064 Valley Drive, Sioux City

Finance: Mrs. M. H. Brinker, 300 S. Maple, Jefferson

Historian: Mrs. A. G. Felter, Van Meter

Legislation: Mrs. E. B. Howell, Ottumwa

National Bulletin: Mrs. F. H. McClurg, Fairfield

Parliamentarian: Mrs. E. T. Warren, Stuart

Publications: Mrs. K. M. Chapler, Dexter

Public Relations: Mrs. T. E. Kane, Boone

Revisions: Mrs. M. G. Beddoes, Oelwein

Student Nurse Recruitment and Loan Fund: Mrs. C. A. Hanson, Waterloo

Today's Health: Mrs. P. L. Spencer, Essex

Work for the Handicapped: Mrs. J. E. Whitmire, Sumner

SOCIETY PROCEEDINGS

MEETINGS

Carroll

The Carroll County Medical Society, in cooperation with the Health Council, had a dinner meeting May 16 at the Carroll Country Club.

Dallas-Guthrie

Dr. Jack Spevak of Des Moines was the guest speaker at the Dallas-Guthrie Medical Society meeting in Perry May 18. His subject was "Emergencies in the Newborn."

Crawford

Newly elected officers of the Crawford County Medical Society for the coming year are as follows: President, Dr. John M. Hennessey; secretary, Dr. John J. Gleeson; delegate, Dr. Amandus H. Grau; alternate, Dr. H. D. Jones.

Members of the Society heard Mr. T. C. Aarestad, president of the Board of Trustees of the Crawford County Memorial Hospital and hospital administrator, tell of the hospital's physical and tentative plan of organization. Crawford County members took the initial step of forming a medical staff for the hospital.

Delaware

The Delaware County Medical Society and Auxiliary met May 17 at the Glen-Charles Hotel for their regular dinner meeting. Separate meetings of the two groups followed.

Dubuque

"Medical Practice Under the British System" was the subject of Dr. Ralph J. Gambell, formerly of Manchester, England, when he spoke May 10 at Dubuque. Dr. Gambell was sponsored by the Dubuque County Medical Society and the Dubuque Adult Education Forum.

For further news of activities of the Dubuque Society, see News Notes, page 311.

Fayette

Fayette County Medical Society members met for a dinner meeting in Oelwein May 9. Guest speaker was Dr. Clark N. Cooper of Waterloo.

Iowa and Illinois Central District Medical Association

The Iowa and Illinois Central District Medical Association held its annual meeting May 31 at Davenport. Dr. Phil Thorek of Chicago spoke on "The Acute Abdomen" and Dr. Wright Adams of Chicago spoke on "Diagnosis and Prognosis of Coronary Artery Disease."

Iowa Clinical Medical Society

The Iowa Clinical Medical Society, at its semi-annual meeting in Mason City May 13, elected the following new officers: President, Dr. John C. Shrader of Fort Dodge; vice president, Dr. Herman J. Smith of Des Moines; secretary-treasurer, Dr. Leslie W. Swanson of Mason City. Dr. Donald C. Campbell of the Mayo Clinic spoke on "Newer Treatments of Pernicious Anemia" and Dr. Willis M. Fowler of Iowa City discussed "Administrative Problems of the College of Medicine."

Iowa State Urological Society

The Iowa State Urological Society held its annual meeting May 13 in Dubuque. Dr. John Emmett of the Mayo Clinic spoke on "Obstructions of the Female Bladder" and Dr. James S. Sargent of Milwaukee, Wis., spoke on "Traumatic Injuries of the Urinary Tract."

Johnson

The Johnson County Medical Society held its annual picnic June 7 at the home of Dr. George C. Albright, Iowa City.

Pottawattamie

The Pottawattamie County Medical Society, in conjunction with the Dental Society, Pharmaceutical Association and medical representatives of pharmaceutical manufacturers, met May 16 in Council Bluffs. Speakers included Dr. Fred Sternagel of West Des Moines, Mr. Donald L. Taylor, Mr. I. W. Myers and Mr. D. L. Bruner.

Sioux Valley Medical Association

The Sioux Valley Medical Association's annual medical meeting was held May 13. Speakers included Dr. Colin G. Thomas, Jr., of the SUI department of surgery; Dr. Murray Franklin of the SUI Hospitals and Dr. Carroll Brown of Sioux City.

Washington

Dr. Pladius J. Leinfelder of the SUI College of Medicine spoke on "Injuries to the Eye" at the Washington County Medical Society May 25.

Webster

Dr. Gates M. Brown of Dayton, who has been practicing medicine for 50 years, was honored May 25 at the meeting of the Webster County Medical Society.

Woodbury

"Practical Aspects of Dermatology" were discussed by Dr. James Webster of the Northwestern

University School of Medicine at the May 18 meeting of the Woodbury County Medical Society.

Dr. B. Marden Black of the Mayo Clinic was the guest speaker at the June 15 meeting when he spoke on "Diseases of the Thyroid."

Wright

Dr. Francis Coleman of Des Moines addressed the Wright County Medical Society recently on "Etiologic Diagnosis of Anemia."

PERSONALS

Dr. Nathaniel G. Alcock, head of the department of urology in the SUI College of Medicine for almost 35 years, was honored at a testimonial dinner June 4 in Iowa City sponsored by his former students and the Iowa State Urological Society. All but six of the 40 urology specialists who have trained under Dr. Alcock attended the dinner.

Dr. Walter L. Bierring of Des Moines has been honored for his efforts in the establishment of the Iowa Society of Mental Hygiene by the founding of the Doctor Bierring Award, which will be given each year to the organization which has given outstanding mental health service in Iowa.

Dr. George Braunlich has been appointed chairman of the medical division in the Davenport Mercy Hospital replacement campaign. Also the president of the Mercy Hospital staff, he will have charge of organizing and directing solicitation among the physicians and surgeons of the city.

Dr. Roger W. Boulden of Omaha, Neb., a 1946 graduate of the University of Nebraska College of Medicine, began practice at Lenox July 1. Dr. Boulden is a specialist in internal medicine and diagnosis.

Dr. Edwin J. Butterfield, former Dallas Center physician, left June 2 to assume a post as Boy Scout camp physician at Mount Lemmon, Arizona.

Dr. Floyd Christensen has become associated with Dr. Louis A. George in Remsen. A 1949 graduate of the University of Nebraska College of Medicine, Dr. Christensen was house doctor at St. Joseph's Mercy Hospital in Sioux City for the past year.

Dr. James W. Culbertson of Iowa City discussed "Techniques in the Diagnosis of Congenital Heart Disease" at the Iowa Heart Association's annual meeting May 18 to 19 in Des Moines.

Dr. Walter R. Fieseler of Fort Dodge attended the national convention of the American Urological Association in May. He is a past president of the Iowa Association.

Dr. Paul V. Hart, formerly associated with Dr. T. J. Egan in Bancroft, opened a new office at Titonka June 1.

Dr. Harold A. Housholder, who has been practicing medicine 45 years, was honored by Winthrop citizens on "Housholder Day" June 15. A Dr. Housholder fund is being organized to be used to furnish rooms in the People's Hospital in his honor.

Dr. John Hornberger of Omaha began practicing medicine in Manning July 1. Dr. Hornberger, a graduate of the University of Nebraska School of Medicine, interned at the State University of Iowa Hospital.

Dr. Daniel Hope, Jr., of Baltimore, Md., has become associated with Drs. Ardo M. Hess and William J. Wolf in the West Union Clinic. Dr. Hope is a 1940 graduate of the University of Maryland School of Medicine in Baltimore.

Dr. Herbert Kersten of Fort Dodge has returned from Europe where he investigated socialized medicine.

Dr. Paul Lambrecht has recently begun practicing medicine in Des Moines. A 1943 graduate of the University of Illinois Medical School, he interned at Cook County Hospital, Chicago, and was a resident physician in ophthalmology at the Illinois Eye and Ear Infirmary, Chicago.

Dr. Otis S. Lee, Jr., assistant professor of ophthalmology in the State University of Iowa Medical School, resigned May 1 to join the staff of the Springer Clinic in Tulsa, Okla. Dr. Lee came to the University in 1941.

Dr. Charles W. Maplethorpe, Jr., of Toledo spoke on "Child Health" at the American Legion Auxiliary meeting May 8.

Dr. Enos D. Miller of Wellman, who has been practicing for 40 years, was honored by Wellman citizens on "Dr. Miller Day" June 20.

Dr. Glenn S. Rost of Lake City spoke on Socialized Medicine at the Young Married Couples meeting in Rockwell City May 16.

Dr. H. Joyce Perrin spoke on "How Psychiatry Helps" at the Polk County Mental Hygiene Society meeting May 7.

Dr. M. L. Scheffel became associated with Dr. Thomas E. Shonka of Malvern July 1. Until recently he was a resident physician at the Mercy Hospital in Council Bluffs.

Dr. Paul B. Skelly, Jr., of Dubuque spoke on "Some Aspects of Modern Medical Practice" at the Chamber of Commerce meeting May 16.

Dr. Austin Smith, editor of the *Journal of the American Medical Association*, spoke on "Medical Watchdogs" at the State University of Iowa College of Medicine in Iowa City May 22.

Dr. Robert G. Vernon of Marion has been named one of two doctors to receive the first annual fellowships in the basic medical sciences at the University of Iowa College of Medicine. Dr. Vernon received his doctor of medicine degree from Iowa in 1947.

Dr. J. H. Walston of Clarkfield, Minn., began practicing medicine at Graettinger June 15. Dr. Walston is a graduate of Northwestern University School of Medicine, served his internship at General Hospital, Minneapolis, and has been in general practice in Minnesota until recently. He has taken over the office and practice of Dr. Harold E. Sorensen, now of Eau Claire, Wis.

Dr. Donovan F. Ward, county health officer, spoke on "Cancer" at a meeting of the Dubuque County Public Health Nursing Service in Epworth.

Dr. Nelson M. Whitehill of Boone recently addressed the Boone Rotary Club on the subject "Some of the Newer Concepts of Alcoholism."

DEATH NOTICES

Crow, Ira Nelson, 68, Fairfield physician for 28 years, died at his home May 10 after an illness of several weeks. Born at Webster, he was graduated from the State University of Iowa College of Medicine in 1908 and began his practice in Marengo. Dr. Crow had been a member of the Iowa State Board of Health since 1945. He was a member of the Jefferson County and Iowa State Medical Societies.

Graening, Charles Heinrich, 78, died May 17 at his home in Waverly, having been in failing health since his retirement from active practice in 1945. Dr. Graening was graduated from the State University of Iowa College of Homeopathic Medicine in 1893. He was a life member of the Bremer County and Iowa State Medical Societies.

Harpel, Kate Stevens, 82, a practicing physician in Boone for over 40 years, died at her home May 13. Dr. Harpel was graduated from the Drake University College of Medicine in 1902. She was formerly a member of the Boone County and Iowa State Medical Societies.

Healy, Maurice Arthur, 73, died at the Boone County Hospital May 12 after suffering a heart attack. A 1903 graduate of Northwestern University Medical School, Dr. Healy had practiced nearly 40 years in Boone. He was a member of the Boone County and Iowa State Medical Societies.

Moran, Thomas Anthony, 73, physician and surgeon in Melrose for 42 years, died at his home May 23 after a short illness. Born in Melrose, Dr. Moran was graduated from Barnes Medical College, St. Louis, in 1907. He was a member of the Monroe County and Iowa State Medical Societies.

Wilson, Frank D., 68, Sioux City police surgeon, died May 15 following a heart attack. He was graduated from the Keokuk Medical College in 1908 and had practiced in South Dakota for 30 years before locating in Sioux City six years ago. He was a member of the Woodbury County and Iowa State Medical Societies.

SUI MEDICAL ALUMNI REUNION

The first All-Medical Alumni Reunion of the State University of Iowa was held at Iowa City June 9 and 10. Mornings were devoted to the presentation of papers by distinguished alumni. Speakers and their subjects included:

Paul C. Bucy, M.D. (1927), professor of neurology and neurosurgery, University of Illinois, "Modern Neurosurgery";

Richard E. Shope, M.D. (1924), associate director of the Merck Institute for Therapeutic Research, "Masking Transformation and Interepidemic Survival of Viruses";

A. Carlton Ernestene, M.D. (1925), head of section on internal medicine, Cleveland Clinic, "Curable Forms of Heart Diseases";

William A. Milner, M.D. (1930), associate professor of urology, Albany Medical College, "The Diagnosis and Surgical Treatment of Congenital Anomalies in the Urinary Tract";

Frederick C. Greaves, M.D. (1920), Rear Admiral (MC) USN, Bureau of Medicine and Surgery, Navy Department, Washington, D. C., "The Medical Corps of the Navy";

Edwin G. Bannick, M.D. (1920), clinical professor of internal medicine, University of Washington, "The Diagnosis and Management of Functional Complaints";

Frank R. Peterson, M.D. (1920), formerly professor of surgery at the State University of Iowa, now of Cedar Rapids, "Malignancies of the Large Bowel";

H. Close Hesseltine, M.D. (1925), professor of obstetrics and gynecology, University of Chicago, "Current Changes in Obstetrics and Gynecology."

June 9 reunion activities included a buffet luncheon for alumni, medical faculty, graduating students and their relatives. A stag dinner for the alumni and medical faculty was held that evening, with Dr. Peterson serving as toastmaster. After dinner speakers were Gordon F. Harkness, M.D. (1902), Davenport; John C. Parsons, M.D. (1920), Des Moines; and Virgil M. Hancher, J.D. (1924), president of the University.

The afternoon of June 10 was devoted to informal class reunions. In the evening a dinner party was held for the alumni, faculty, and their wives. Entertainment was furnished by Robert H. Bickford, M.D. (1947), resident in internal medicine, and Raymond G. Bunge, M.D., associate professor of urology.

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No. 8

ALLERGY IN THE GENERAL PRACTICE OF MEDICINE

J. Harvey Black, M.D., Dallas, Texas

In 1916 I had the good fortune to develop hay fever. This is not to say that I enjoyed the condition, but it served to interest me promptly and wholeheartedly in the matter at a time when the knowledge of allergic conditions was almost non-existent and interest in them not much more evident. So I have had the opportunity of watching the development of a new area in medicine, and it has been as fascinating as sharing in the exploration of a new country.

From the day when only a few scattered facts about sensitivity were known to our present day knowledge has not been long in time, but a great deal of investigation has been done and a well recognized field of medicine established. What now is accepted without question was for a time considered a foolish notion. What was thought at first to be the explanation of a limited group of conditions has been found to be the basis of a large variety of syndromes. Men in all fields of medicine have become aware of it, and even the nonmedical person has heard something about it. Allergy is a term commonly used and a diagnosis often invoked.

Although much of the diagnosis and treatment of allergic conditions is, and for a time, at least, must remain the domain of the specialist, it has become evident with increase in our knowledge that these conditions occur in all areas of medical practice, and all physicians, whether specialists or general practitioners, see them frequently in their practice.

In the very nature of things this is to be expected. The basic changes in physiology which account for the symptoms of allergy are changes in the caliber and permeability of blood vessels. The dilation of arterioles, the increased permeability of the capillary endothelium and the subsequent edema account for the symptoms modified as they may be by their location and the type of

tissue in which the reaction takes place. This means that such reactions can occur in any vascularized tissue. Symptoms may vary as widely as hay fever and eczema, headache or asthma, but the explanation of each lies in the vascular reaction common to all. Since this is true, then it is to be expected that men in all fields of practice will find it in their patients and should, therefore, have a working knowledge of it.

The mechanism of allergy, of course, is not simply the vascular reaction mentioned. Back of that there is an antigen-antibody reaction, possibly the production of histamine, and, back of all that, a constitutional variation from the normal which may have much to do with determining those persons in whom these changes take place. There is little known with certainty regarding the immunology of allergy and probably less of any physiologic variations which may underlie these conditions. The questions as to why some persons develop clinical allergy while others do not; why it may begin after years of exposure to an everyday antigen; why sensitivity should develop to one thing and not another; why the same allergen may cause asthma in one, headache in another and eczema in a third; why the condition should sometimes clear up spontaneously with no detectable change in the immunologic mechanism; these and other questions remain unanswered. Their solution offers some of the most interesting and promising fields of investigation in science today.

Recognition of a common pathologic change in many diverse conditions has led not only to the conclusion that periarteritis nodosa, Loeffler's syndrome and tropical eosinophilia may be allergic conditions but raise the question of a similar relationship in rheumatic fever, scarlatinal nephritis, multiple sclerosis, and others of undetermined etiology. In the years of the early work in clinical allergy we were criticized for claiming some conditions as allergic; now the pathologist, the immunologist and the internist are proposing, on the ground of common pathologic changes, that the field of allergy be greatly extended.

The differential diagnosis of the common allergic conditions is usually not difficult. An intelligent physician who uses the available means should be able to separate these conditions satisfactorily. The etiologic diagnosis or the detection of the allergen or allergens responsible for the condition may be simple or it may be quite difficult. Frequently it calls for the service of one who gives his time to the solving of these problems.

The general practitioner, the internist, the pediatrician, the rhinolaryngologist and the dermatologist, these particularly, see most of the allergic conditions some time before they come to the attention of the allergist. They are the ones who should be able to recognize them for what they are and to be able to give them care sufficient, at least, to see them through their immediate difficulties. There is no longer any reason why a patient must see four or five physicians before a diagnosis of asthma can be made. There is no longer any excuse for prolonged symptomatic treatment through failure to recognize any common allergic syndrome.

No one knows just how many allergic persons there are nor how many there were in years past. Many men believe there is an increase in the incidence of allergic conditions, but whether this increase is apparent or real, no one can say. But any one who will keep these conditions within his diagnostic horizon will recognize the fact that they are much more numerous than was believed in the past and they are present in a definite and fairly large part of his clientele. The young doctor who is just beginning his practice is usually quite surprised to learn that conditions which he seldom saw and treated lightly in the hospital now are rather plentiful and require more help than he may be prepared to give. Unfortunately for the teaching of young men, the common allergic conditions do not often require hospitalization. For this reason, the teachers of medicine themselves are not fully aware of the frequency and the importance of these conditions in private practice, and teaching suffers on that account.

As stated earlier, the differential diagnosis of the common allergic conditions is usually not difficult. For example, asthma may be definitely diagnosed with rare exceptions. But it is equally as important to know whether this asthma is an incident in the course of a seasonal hay fever, if it is due to some food or environmental factor, whether it may be one of those often designated as *intrinsic*, if it is believed to be due to a bacterial agent, or if it may be due solely to psychic causes. Obviously, the treatment and the prognosis would be quite different in one from the other.

If the physician who first sees the patient believes the condition to be due to psychic trauma, it would be better to refer him to a psychiatrist than to an allergist.

This, I am sure, is not the place to go into an elaborate discussion of these diagnoses, particularly since there is no general agreement among allergists about them. Asthma due to some inhalant or food is spoken of as *extrinsic* and that which is believed to arise from some disturbance within the patient's own body is designated as *intrinsic*; but a large group of us are sure we rarely see conditions falling into the latter category and wonder if this designation is not given often to those for whom an etiologic diagnosis has not been made. Then, too, all of us agree that bacterial allergy is a definite entity and also that asthma frequently is associated with respiratory infection. But we believe that no one has conclusively established the etiologic relationship between the asthma and any organism which may be found in the respiratory tract. Lastly, while all of us agree that emotional disturbances may play an active part in the precipitation of an allergic attack, few are convinced that psychic stimuli are the basic explanation of the patient's allergy. In spite of this evidence of insufficient knowledge in this field, the fact remains that if one is versed in the means of differentiating allergic from non-allergic conditions and is familiar with the immunologic concept of allergy, he can build on that a satisfactory way of caring for most of those whom he sees.

There certainly can be no question about the right to expect physicians generally to be able to provide the medicinal treatment required by the allergic patient. They should be prepared to give them palliative treatment and comfort in the immediate attack. Whether they should investigate the condition further or refer the patient to some one else would depend upon their interest, their time and the knowledge which they have accumulated. If one has the interest, the time and the knowledge, there is no reason why he should not be able to care for these patients adequately. A number of extracts and syringes do not constitute adequate preparation for this work. Skin testing is no substitute for knowledge.

Since those not specializing in the field of allergy are at times called upon to give the patient relief, I should like to say a few things about the drugs now commonly in use.

Although many drugs have come into use in the past few years, epinephrine is still the one most generally useful in the relief of the asthmatic. It may not control a severe attack; some patients are made quite nervous by it and some

became epinephrine fast if it is used too long and too often. But it gives satisfactory relief probably more often than other drugs. When prolonged rather than prompt relief is wanted, epinephrine may be used in oil. By inhalation, relief from mild attacks may be secured and is a satisfactory method when the attacks are not too severe but recur frequently. It is well to keep in mind that the dose of epinephrine in children is approximately that given to adults.

Theophylline and aminophylline are used quite generally and are quite helpful. Intravenously, it sometimes stops an attack of asthma which was refractory to epinephrine. By rectum, it often gives adequate relief. Orally, it will frequently control mild attacks, and the enteric-coated tablets are helpful if taken at bedtime since they protect the patient in the earlier hours of the morning when the nocturnal attacks usually appear.

Iodine deserves more consideration than it gets. Given over long periods of time, it may greatly reduce the number and severity of attacks. Except in unusual circumstances, there is no need of intravenous use since absorption from the gastro-intestinal tract is quite rapid. Paraldehyde may be quite helpful in producing needed sedation. It is safer than many other sedatives which are in more common use. Ether and oil per rectum may stop an attack of asthma when other medication has failed.

Oxygen and oxygen with helium have been used a great deal—often, I believe, unnecessarily because relief might have been secured by simpler and less expensive therapy. It is questionable, too, whether these gases can be of much help when the patient has his lungs and bronchial tree full of air which he cannot expel and there is little interchange of gases possible.

Ephedrine may be of great service in the relief of nasal allergy, but it is not often used in the care of asthma. Doses large enough to be of help produce so much central nervous system stimulation that they cannot be used. There are several analogues of ephedrine which do not produce so much central stimulation, but most of them are scarcely as effective as ephedrine.

The sulfa drugs and the antibiotics may be of help in the treatment of an infection complicating asthma. They are of no service in the uncomplicated asthma. Histamine has been advised for any and all allergic manifestations, but it has frequently been disappointing.

The various antihistaminic drugs have proved to be of some help to the patients with urticaria, hay fever and pruritis but have been disappointing in other allergic conditions. They seldom help

the asthmatic and their behavior is quite erratic. Of the great number of these drugs available today there is none which is the best. Some will produce fewer unpleasant side effects than others, but they all will relieve some while failing completely with others. They leave much to be desired.

If asthma is persistent, the patient becomes more or less dehydrated and water is one of the most important therapeutic measures. Usually it can be given in adequate amounts orally; if not, give it per rectum or by vein.

Opiates, in any form, are dangerous drugs to use for relief of asthma. I have seen more deaths from opium used for relief than from asthma itself. Demerol hydrochloride cannot be recommended. It may cause death in the asthmatic and I have seen addiction from its use.

If one wishes to go further than to care for the immediate attack it is well to remember the following:

1. People become sensitive to the allergens to which they are commonly exposed. Everyday foods are the most frequent offenders.

2. One may become sensitive to substances to which he has been exposed for years.

3. The first exposure to food, drug or other allergens does not precipitate an attack. An incubation period is required.

4. Allergy usually manifests itself in childhood or early life. It may develop in the first few days or weeks of life. Dyspnea beginning after middle life with no previous allergic manifestations is more likely to be cardiac than asthmatic.

5. Spontaneous cures occur and long remissions may be seen, but the number of these is comparatively small.

6. Allergy may be entirely independent of one's general health. Improving the patient's condition generally may have no influence on his allergic condition.

7. Skin tests are quite valuable but fallible. They must be interpreted in the light of the history. Dietary manipulation may be of much help. A good, detailed history is the most important diagnostic measure.

8. Accessory factors such as changes in the weather, a cold, fatigue or an emotional upset may precipitate an attack in an allergic individual.

9. Allergy to drugs is frequent and medication used for relief may be the explanation for the continuation of the reaction.

In general it may be said that specific treatment of various allergic conditions consists of avoiding the allergen when this is feasible and, when not, the use of specific treatment in hyposensiti-

zation. Avoidance may be easy, difficult or even impossible. This may depend upon habits, customs, economic conditions or the occupation of the individual. The efficacy of specific treatment will depend upon the accuracy of the etiologic diagnosis, whether treatment is carried to an adequate level, and whether it is continued for a sufficiently long period. These matters do not require a superior order of intelligence but do demand experience, knowledge and good judgment, which, after all, may be said about any form of medical treatment.

NASAL ALLERGY

George W. Bates, M.D., Iowa City

Nasal allergy may be defined as a hypersensitive response to any allergen, either inhalent or injectant, in which the nasal mucous membrane acts as the shock organ.

Pathologically, the characteristic acute reaction comprises: edema, eosinophilia and glandular dilation, which clinically are manifested subjectively as: (1) nasal irritation, via sneezing or itching; (2) rhinorrhea, anterior or posterior; (3) nasal congestion or stuffiness. These are manifested objectively as: (1) pallor of the lining mucous membrane accompanied usually by a bluish tint; (2) excessive nasal secretion which may be thin and watery or thick and viscous; and (3) edema or swelling of the lining mucous membrane. In the chronic state, pathologically, fibrosis replaces edema; glands become hyperplastic, and chronic inflammatory cells infiltrate. Frequently secondary infection is superimposed on the chronic allergic state, in which case polymorphonuclear leukocytes are also present.

Symptoms in the chronic state are most frequently stuffiness or congestion, rhinorrhea, and occasional sneezing spells. Appearance of the nasal lining in chronic allergic states is that of a bluish pallor most marked over the inferior turbinate, a thick hypertrophic membrane, which responds poorly to topical vasoconstriction, and polyposis of varying degree, which usually develops first in the ethmoid region and on the middle turbinate.

The frequency of occurrence of nasal allergy and the role which nasal allergy plays in the predisposition of secondary infectious rhinitis and sinusitis make it a subject of the greatest importance to the rhinologist. However, because of the difficulties encountered in accurate diagnosis and evaluation of therapy, many of us take our responsibility in this field too lightly.

The course of allergic rhinitis varies with the age of the patient, severity of the nasal reaction and efficacy of therapy. An untreated case of severe intensity progresses from the acute phase to hypertrophy and hyperplasia of the mucosal lining, polyposis, secondary infection and ultimately bilateral suppurative pansinusitis. Changes in the mucosa of the nose usually are paralleled by changes in the mucosa of the paranasal sinuses. Mild forms may result only in constant stuffiness. Severe but brief allergic flares may occur at intervals allowing complete restoration to normal of the nasal lining in the interim. In the past insufficient attention has been paid to the fact that proper treatment greatly benefits patients suffering from this condition, reducing symptoms and signs to a minimum, if not entirely eliminating them, and checking the progress of the disease.

Individuals who develop symptoms of severe nasal allergy early in life usually are the most difficult to manage and, if left untreated, frequently develop polyposis, secondary infection and sinusitis. On the other hand, the individual who acquires only a mild form of nasal allergy later in life has less tendency to develop severe symptoms.

Often the nasal picture forms only one part of the generally hypersensitive nature of the patient and may be accompanied by cough, asthma, urticaria, dermatitis, constipation, diarrhea, headaches and easy fatigability.

The accurate diagnosis of allergic rhinitis is not easy. It depends upon, first and foremost, the history; second, nasal examination; third, microscopic examination of the nasal secretions; fourth, foreign protein skin tests; and fifth, other examinations as x-ray films of the sinuses and a complete blood count.

Of the major factors in diagnosis the history is by far the most important. Because of the great number of details into which it is necessary to inquire and the consequent amount of time consumed, it is this phase of the investigation which is most frequently mishandled. Inasmuch as it is impractical for the busy practitioner to take the amount of time which a detailed allergic history requires, it is suggested that a comprehensive questionnaire be mimeographed and space provided so that answers may be either checked or written in by the patient. These forms might be filled out either in the waiting room, or at home and presented at the next visit. The significant points in the history could thus be obtained with a minimum of wasted time, and the patient questioned further regarding details of the positive findings. Such allergic question-

nares may be obtained from most standard texts on allergy.

In the management of the allergic patient it should be emphasized that a detailed allergic history based upon a thorough knowledge of all possible etiologic agents is the most important fundamental background for analysis of the problem. Additional information should be obtained from skin tests and correlated with the history. Frequently the elimination or avoidance of etiologic factors alleviates symptoms. The most commonly encountered offenders are: pollens, from trees, grasses and weeds; dust, either house or occupational; feathers; kapok; cosmetics; soap powders; insect sprays; and household pets.

The appearance of the nose in allergic rhinitis has already been mentioned. There may be polyposis of extremely varying degrees, the first stages usually being seen in the ethmoid regions. A useful system of grading of the extent of polyposis has been suggested by Hansel, which is as follows: Grade 1. Incipient polypoid degeneration seen only under the middle turbinate. Grade 2. Polyps extending down to the lower edge of the middle turbinate. Grade 3. Polyps extending down to the upper border of the inferior turbinate. Grade 4. Polyps completely filling the nasal cavity. It should be remembered that with extensive polyposis, secondary infection usually occurs as a result of stagnation of secretions and poor ventilation. Sinus x-rays should always be obtained as part of the examination in these patients.

When suspecting an allergic basis for our patients' symptoms, usually our first move is to obtain foreign protein skin tests. We are far too dependent on the results of these tests both for the establishment of the diagnosis and for the plan of therapy. While skin testing is important, usually too much dependence is placed on this procedure because it is the simplest and shortest method of devising an allergic regime. Not enough attention is paid to the history, except perhaps when skin tests reveal no positive findings and the history is the only possible guide to therapy. The accuracy of skin tests for pollens is considered quite reliable; however, for other offenders such as inhalents and foods they are much less reliable. It must be remembered that discrepancy in testing materials, strength and dilution used for testing vary widely. Solutions deteriorate with time and the economic factor involved here may foster inaccuracy of testing. Also there is wide variation in the interpretation of skin reactions among different observers.

The simplicity and facility of the cytologic

examination of nasal secretions make it a procedure of great value in diagnosis. Examination is incomplete until this study is accomplished. It is performed by smearing on one end of a glass slide a film of nasal secretion, which may be best obtained by having the patient blow his nose into a piece of wax paper. The slide is then dried carefully over a flame and stained by Hansel's method, which produces brilliant red eosinophilic granules contrasted with blue nuclei and colorless neutrophilic cytoplasm. The merits of this technic are rapidity of the staining process, excellent color contrast and the ability of the stain to maintain its color for years without fading. Wright's or hematoxylin-eosin stains may be used but are not nearly as satisfactory for the examination of nasal secretions. An outline of the technic for Hansel's stain is as follows:

1. Flood the slide with Hansel's stain for 30 seconds, timed accurately.
2. Dilute the stain with an equal amount of distilled water as in the Wright's stain technic for another 30 seconds.
3. Wash with distilled water.
4. Decolorize for from two to five seconds, depending on the thickness of the nasal smear with methyl alcohol; then pass the slide at once through a flame to stop the decolorization process.

For microscopic examination, a magnification of approximately 150 times has been found optimum. The entire slide should be examined using a white or yellow light, as blue light detracts from the color contrast.

The entire staining and reading process occupies only three or four minutes. The presence of eosinophiles in the nasal smear in quantities in excess of their normal blood concentration is consistent with the presence of nasal allergy. However, a single negative nasal smear does not exclude the possibility of allergic rhinitis. Basically, eosinophilia characterizes allergy; neutrophilia characterizes infection.

Allergic rhinitis may be entirely seasonal, perennial or intermittent and occasional, depending upon the factors involved. The role of bacteria as a primary cause of nasal allergy remains indefinite.

Principles of treatment depend upon avoidance of the offending allergen wherever possible, and desensitization or hyposensitization wherever avoidance is impossible. In cases of pollinosis or hay fever, wherever it is impractical for the patient to move out of the area of pollination during a certain season, desensitization and antihistaminics, supplemented at times by parenteral nasal decongestants such as ephedrine or orthoxine, provide varying degrees of relief. In cases where

feathers are a known allergen, plastic covering of the pillows or the substitution of a foam rubber pillow is of major importance. Insect sprays and household pets may be eliminated. Nonallergenic cosmetics may be obtained at most drug stores. Kapok, which is found most often in sofa pillows, accessory pillows and rug padding, may be eliminated whenever it has been established as an offending allergen. Substitution of different types of soap powder or the use of liquid soaps readily eliminates the irritating or allergenic effect of certain of these. Dust is a factor which, although it may be greatly reduced in the environment, cannot be entirely eliminated. Dust is an almost ever-present factor, and in a patient with a hypersensitive nose, even if it is not serving as a primary allergen, dust is providing considerable nasal irritation and should be eliminated insofar as possible for this reason alone.

The dust-sensitive patient should keep his environment as dust-free as possible via frequent, thorough vacuum cleansing. If possible, someone other than the patient should do the cleaning. If this is impractical, the air should be sprayed with water from an insect atomizer before sweeping or vacuuming is begun. The use of a sweeping compound also helps minimize the amount of dust. The patient should wear a dust-protecting face mask, either of the type available at drug stores or simply a hospital type nose and mouth mask which preferably has been dampened. Overstuffed furniture, particularly old furniture, should be avoided and if feasible, eliminated from the house. Drapes should be of the hard finish type, not of soft, fuzzy material which produces and collects dust and should be washed frequently. Large heavy rugs should be eliminated, particularly from the bedroom, and small, readily washed throw rugs substituted. The dust sensitive patient should have a hard finish material covering the blankets on his bed and should sleep between sheets, not next to a blanket. Heating systems should be cleaned as thoroughly as is practical. The entire household contents as well as the radiators should be wiped clean frequently with a damp cloth. Hot air systems and registers should be cleaned as thoroughly as possible. There are special types of vacuum cleaners which are more efficient than ordinary types in the prevention of dust in the air. One type bubbles the vacuum intake through water, and another filters the vacuum intake through paper containers which are extremely fine. There is also available now, though expensive, a type of air conditioning system which removes dust from the air by precipitating it against an electrically charged screen. This is claimed to be extremely efficient in dust

reduction. While all of these precautions may result in a dust-free home environment, outside contact is inevitable. Parenteral dust desensitization is, fortunately, one of our more successful therapeutic measures.

Having decided that parenteral desensitization is necessary, there are several methods which may be employed. One is the large dosage buildup system, in which an initial dose of 0.1 cc. of a 1 to 10,000 dilution or stronger is given initially and gradually increased at intervals of three days to a week up to a dose as concentrated as 0.5 cc. of 1 to 10 dilution. Another system in the low dosage buildup plan in which much higher initial dilutions are used and gradually brought up to a strength of 1 to 100,000 or 1 to 10,000 dilution. Some allergists prefer injection therapy starting at a dilution which is determined by the patient's skin sensitivity after titrating with skin tests of varying strength. Another school uses the high dilution, optimum dosage technic as developed by Hansel. In this system the initial dosage depends upon the severity of the patient's symptoms, and subsequently the dose is modified in accordance with the degree of relief obtained by the patient from preceding injections. However, once the optimum dosage has been established that is, the dose from which that particular patient obtains the most relief, this is not changed, but the interval of time between injections is gradually increased as the symptoms improve. Dr. Hansel's dilutions vary from 1 to 10 billion down to 1 to 100,000.

In the treatment of pollinosis there are three generally accepted methods of injection therapy: (1) the co-seasonal method; (2) the pre-seasonal buildup method; and (3) the perennial method. The co-seasonal method, given only during the pollinating period, consists of injections at intervals of from two to seven days, the dosage of necessity being of the high dilution type in order to prevent an anaphylactic reaction. The pre-seasonal buildup method consists of beginning injection therapy approximately three months before the onset of seasonal symptoms and gradually increasing the strength of the injections until seasonal symptoms begin, at which time the dosage is reduced approximately one-half and maintained at this strength throughout the pollinating season. Following subsidence of symptoms, injection therapy is discontinued until three months prior to the seasonal onset the succeeding year. In the perennial method the patient is built up to a maximum maintenance dose which is reduced to approximately one-half of its strength during the symptomatic or pollinating season. Following subsidence of symptoms, dosage is gradually again

increased to the maximum maintenance level, and such doses are continued the year round at intervals of two to four weeks.

The importance of general supportive measures in the treatment of nasal allergy should not be underestimated. Particularly in severely allergic children who are considerably underweight such therapy is of great value. Multiple vitamin preparations should be used, concentrated protein compounds such as sonagen are extremely useful, and concentrated solutions providing basic nutritional mineral elements such as tracite cannot be overestimated.

Discussion

Paul M. Seebohm, M.D., Iowa City: Dr. Bates has given a fine discussion of the over-all problem of nasal allergy. I think that it is important to emphasize the problems in this branch of medicine, because they so outnumber the solutions. The management of cases of intrinsic allergic rhinitis has always been a particularly disturbing problem to allergists and otolaryngologists alike. The history of no aggravation from extrinsic factors other than nonspecific irritants and the absence of positive skin reactions to the usual test substances makes it difficult to carry out the old axiom, "Clear up the allergy first." Certainly from an anatomic-pathologic standpoint the nasal membranes of these patients have all the characteristics of an allergic process, but that does not necessarily mean the offending factor is outside the body. I do not know the cause of this condition, nor have I seen evidence that proved the operating mechanism in these cases. Where there is infection present, certainly the direct surgical approach is indicated whether the cause of the allergy is found or not, for in most of these cases our present methods will not demonstrate specific extrinsic causes.

THE STATUS OF ANTIHISTAMINIC THERAPY

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The discovery of therapeutic agents of widespread commercial possibilities may lead to extravagant claims and exploitation; yet while we deprecate the latter, we should recognize and give credit to those reputable pharmaceutical organizations for the great therapeutic contributions they make in medicine today through their research laboratories staffed by scientists of the highest caliber.

The story of the antihistaminics and their development might well be called "The Great Therapeutic Gold Rush."

The historical background is interesting. Nearly 50 years ago the phenomena of anaphylaxis was demonstrated. Hypersensitivity in man in

isolated instances has been known for centuries. Richet (1898-1902) succeeded in sensitizing man to certain poisons by preliminary injections, and for this phenomena he coined the term *anaphylaxis*. Von Pirquet in 1903 theorized, following his studies relative to the then unknown disease serum sickness, that the disease symptoms acquired after an acquaintance with an organic substance was due to an altered condition of the host. This was the basis of modern allergy.

Experimental anaphylaxis is based on the theory of an antigen antibody reaction. Animals can readily be sensitized experimentally, but we do not have the same opportunity for experimental confirmation in humans. In experimental anaphylaxis desensitization can be achieved by the suitable administration of the exciting agent. In clinical allergy this is not so easily accomplished.

Dale and Laidlaw¹ in the course of their investigations of ergot and its extracts and their action on uterine tissue discovered histamine. Histamine is an amine first produced as a synthetic product from the amino acid histidine by a chemical process. They discovered that histamine produced symptoms similar to those of anaphylactic shock. Its action is complicated. Peptone, an inert protein, can cause anaphylactic shock in a sensitized animal, and the symptoms are much the same as from histamine poisoning. The reactions from anaphylaxis and histamine were found to have many symptoms in common in any one given species of animal but differed in different species.

Best and his associates² in 1927 extracted histamine and choline from the liver and lung in sufficient amounts to account for vasodilator effects, histamine accounting for the greater part of this activity. It was found to be present in remarkably large amounts in lung extract.

To complete the indictment of histamine, Dragstedt and Mead³ produced anaphylactic shock in sensitized animals by the intravenous injection of an antigen which contained no histamine. The importance of their finding was that previous to the injection of the antigen there was no histamine in the blood and fluid tissues, but as the anaphylactic shock began, histamine was found in the blood and lymph. Code⁴ showed 70 to 90 per cent of normal blood histamine was in the white cells.

With the demonstration of specific sensitivity in anaphylactic shock and the fact that histamine seemed to be a potent factor, extensive research was stimulated to try and find a means of desensitization without a specific antigen. Up to 1932 Hill and Martin⁵ recorded at least 165 substances or methods that were tried for the nonspecific inhibition of anaphylaxis.

Because of the similarity of allergic responses to some of the symptoms of anaphylaxis and the prominence of histamine intoxication as a factor in the latter, there was an extraordinary stimulus to research relative to the histamine allergy relationship due to the possibility that we had here the common factor basic to all allergies. The problem and a satisfactory explanation is not so simple relative to the allergies.

There is no conclusive proof that there is enough increased histamine in the blood during allergic responses to account for the symptoms. We do not know whether histamine exists in the cell as an inactive precursor and if it does, in what state and what change takes place to produce the physiologic response. Is it possible that the cell wall alone prevents its entrance into the general circulation?

Granting the premise that exposure to an antigen by the allergic individual means the release of histamine, why do we have localized responses? Is there such a thing as localized release of histamine? We have no proof of this. What of the inheritance factor among the allergic? What of the lowered threshold, so-called, due to temperature changes and the influence of emotional upsets? Again, why the varying responses on the part of the individual subjected to the same exposure? Different responses in different racial groups have not been satisfactorily answered.

There is no proof that allergic symptoms are due to a heightened sensitivity to histamine. In fact, there is a wide range of sensitivity to histamine in individuals. We have no proof that these variations are greater among the allergic than they are among the nonallergic.

Granting to the individual a varying tolerance dose, there is as yet no conclusive proof that histamine therapy increases the tolerance dose of the individual. There is still much that we do not know about histamine. Does it have a physiologic dose, and if we could destroy it within the cell or body tissues, which we know the antihistaminics do not, would we be flying from the ills we know only to those we know not of?

In anaphylaxis we cannot say that the condition is one of histamine intoxication; other active substances such as choline may have their part. We can only state that their presence is the result rather than the cause of antigen antibody reaction.

We know that histamine is a normal constituent of mammalian tissues, but just how it is bound to those tissues we do not know. Histamine is intimately connected with allergic phenomena, but how essential and how predominant, we do not

know. Certainly not all allergic manifestations are caused by the liberation of histamine. In anaphylactic shock there is a drop of body temperature and prolongation of blood coagulation time while these are absent in experimentally produced histamine shock. Heparin inhibits anaphylactic shock, but it does not restrain histamine reactions. Arginine can prevent death from histamine but does not have this effect in anaphylaxis. Dogs may die in anaphylactic shock with the blood histamine at or approaching the normal level.⁶ There is no consistent variation in the histamine blood content in allergic patients either between or during attacks.⁷

Histamine causes bronchial constriction, has vasodepressor effects and produces smooth muscle spasm.

Acetylcholine can produce shock resembling anaphylaxis, and according to Chigira⁸ the symptoms resemble anaphylactic shock more than that from histamine.

Acetylcholine stimulates the parasympathetic system and is released only by nerve stimulation in contrast to histamine by tissue injury. Nerve tissue was formerly thought to have no power to create antibodies and depended on those in the blood. Investigation of the last few years has questioned this, and some evidence has been produced to affirm this ability of the part of nerve tissues.

When it comes to the specificity of an allergen, it is rather agreed that this is determined by its chemical structure. The hypersensitivity of the host may represent a reaction to the molecule as a whole or to certain radicals of the molecule. This may differ with each individual case so the precise nature of the sensitivity must be determined by adequate and numerous tests.

The chemical nature of the allergen individually and in detail is not known, and attempts to establish a common allergic nucleus have not been accomplished. There is a rather general acceptance that antibodies are modified serum globulins. Ehrlich thought that these were specifically reacting substances produced by the body, each reaction representing an independent antibody. This has been discarded for the theory of a common antibody, with the variations of the antigens causing the variable reactions: with a toxin, neutralization; with a colloid, precipitation; with a bacterin, agglutination.

In fact, the concept of histamine as the cause of allergic reaction is simply based on the fact that the effects of histamine in man resemble some of the phenomena of allergy.

Best in 1929⁹ demonstrated that some of the tissues had a substance or enzyme capable of

destroying histamine called histaminase. This led to the hope that here was a natural substance that might prove to be of therapeutic value. Best's observations were confirmed, and there appeared some favorable clinical reports. Adverse reports also appeared in the literature. The fact remained that while histaminase did destroy histamine in vitro, it absolutely failed in vivo. In 1940 Best and McHenry felt called upon to issue the following statement: "Our investigations, over a period of ten years, have failed to show that the intravenous or intramuscular administration of histaminase has any effect upon the presence of histamine in the body or on that given by injection. For some years we have consistently answered numerous inquiries about histaminase with the statement that we believed there was no physiologic basis on which to rest its clinical use." Since frequent observations failed to show that repeated injections of histamine increased the tolerance of the individuals and failed to produce antibodies, it was proposed that by an azo linkage with various proteins some antibodies might be developed that would have some specificity for histamine. Clinical reports were more or less confusing, and one can say that the efficacy of such linkages has not been accepted.

The amino acids, histidine, cysteine and arginine were shown to have histamine-inhibiting properties, but lack of activity and high degree of toxicity precluded any clinical application.

Horton¹⁰ and his associates felt that the syndrome of erythromelalgia was due to the release of histamine. They have reported favorable results clinically of the condition per se, but there is still lacking any conclusive proof of stimulating a histamine tolerance or diminished sensitivity.

The so-called sympathomimetic drugs, such as epinephrine, ephedrine and propadrine hydrochloride, owe their antiallergic qualities primarily to their vasoconstrictive action. Their action has no connection with immunologic reactions or chemical mechanisms. It is important to remember the limitations of their actions and that they do not interfere with the concomitant use of antihistaminic agents.

Fourneau and Bovet¹¹ in 1933 demonstrated that certain phenolic ethers counteracted the action of histamine in vitro and in vivo. It was the work of Bovet with the ethylenediamines and aminoethyl ethers that provided the basis for the research that has brought forth the antihistaminics of today.

In the "A" class Fourneau's Compound F 929 was the first discovered having the desired specific antagonism to histamine. Its high incidence

of side effects contraindicated its clinical use. Later came the introduction of benadryl, an agent belonging in the same group with some modifications. Decapryn followed and was closely related to benadryl. All agents of this group have markedly sedative effects on man.

In the "B" class, where oxygen was replaced by the trivalent nitrogen, there was an opportunity for greater structural variations. Forneau's 1571 was the first of this class but was found too toxic for clinical use. However, by replacing the diethylamino portion of the side chain by a dimethylamino group, Compound R F 2325, there was developed the first antihistaminic feasible for clinical trial.

Research in France became more intensified, and antergen was the first antihistaminic to become commercially available. Diatrin on the American market was of similar structure.

In Europe antihistin, which was less active but had reduced irritative properties, became quite popular. Further substitutions from the chemical structure of antergen increased the antihistaminic properties, and pyribenzamine was the parent of a certain group.

A reduction in activity accompanied by a lower incidence of side reactions was found in neohetramine in which the pyridine nucleus was replaced by a pyrimidine group. It was this compound that convinced the government authorities that the side effects had been reduced to a minimum level that would make the product safe to sell over the drug store counter, and we have seen the country flooded with this product in various combinations under the trade name of *Anahist*. The advertisements do not tell untruths, but clever copy writers have so minimized the limitations that the average reader is left with the impression that we have here a cure for colds, the coryza, without any distinct differentiation of the virus cold from the infective cold.

Experimental research meanwhile continues. Phenergan is one of the most active compounds in animal experimentation. It was 15 times as active as pyribenzamine, and its effect lasted three times as long. In a general way in those compounds where the linkage between the nucleus and side chain was by means of a carbon, the activity was lessened but with lowered toxicity and less side effects. Trimeton and thephorin are two of the most active of this class. Generally speaking the methylamino ethyl group gives the greatest activity.

Comparative activity of the antihistamines as gauged by animal experimentation is interesting but cannot be accepted at face value. The clinical trial of any drug is the basis for its real

valuation. Pharmacologic tests only serve as guides.

There is a rather interesting story as regards the clinical trials with dramamine at Johns Hopkins Hospital. Dr. Gay and his associates undertook this work in 1947 in the allergy clinic.¹² Among the patients was a pregnant woman suffering from urticaria. One day previous to taking the medicine they were giving her, she remarked that she had for years suffered most acutely from all forms of motion sickness—auto, bus, train and boat—but that since taking this medicine she was entirely relieved of the trouble. Those carrying out the investigation, and particularly the manufacturers of the product, were immediately impressed with the fact that if further tests could duplicate this woman's experience, perhaps they had a product of unlimited commercial possibilities. The patient was tested with placebos which resulted in a return of symptoms and then relief of same with a resumption of medication. Turning their attention to further investigation of dramamine for the relief of motion sickness, Gay and Carliner carried out scientific observations on the personnel of the U.S.A.T. General Ballou relative to the drug as a preventative and cure for motion sickness. Time does not permit a repetition of their analysis, but in one group of 300 men with moderate to violent sea sickness, complete relief was obtained in all but 11 cases. Dramamine as an ordinary antihistaminic was forgotten. Yet in personal conversation with Dr. Gay I asked him, "How does it act?" He frankly said, "I do not know."

The same may be said for all antihistaminics. One may contemplate, as Feinberg¹³ has described, that reagin attached to a cell coming in contact with an allergen brings about the release of histamine; but this is only a hypothesis.

We have no evidence of selective tissue reaction to histamine. Local allergic reactions do occur, and we think of them as due to local sensitivity. Such tissues are called shock tissues. Take the case of Meniere's syndrome: granting that it is due to a endolymphatic hydrops, we have no proof that it is an allergic response or due to the release of histamine. If you wish to accept the throwing of histamine actually into the general circulation, then why do we get local responses?

Knowing so little of the metabolism of histamine, our knowledge of the antihistaminics lacks a firm foundation for investigative research. The development of the antihistaminics has been largely empiric medicine with various chemical combinations. The search still continues for compounds of greater activity and lesser toxicity. The fact that the antihistaminics are much less

effective in clinical bronchial asthma would suggest that there are other mechanics involved than a histaminic antagonism.

G. L. Waldbott and J. J. Gadbow¹⁴ attempted a clinical evaluation of various antihistaminics. Clinical observations, with due respect for each observer, demands verification and averaging of conclusions before general final acceptance.

We know little of the remote toxic effects of the antihistaminics. We know they do not destroy histamine. No one has proved an increased tolerance for histamine following histamine or antihistaminic therapy. Antihistaminic therapy has not been shown to produce any immunity, yet clinically, I think, we all have seen patients with the same exposure but with lessened allergic symptoms for some time after antihistaminic therapy. About all that one can conclude is that the antihistaminics are purely palliative drugs. They have no antibacterial action. The action of the antihistaminics on receptor cells is the opposite of what seems to be effect of histamine on these same receptor cells. In other words, they simply compete with histamine to prevent or counteract the physiologic effect of histamine on the cells.

Tolerance dosage is not changed though the individual's tolerance dose may change irrespective of any therapy. To apply this reasoning to the common cold, granting that the initial symptoms of the common cold are due to the presence of a virus, it follows that the only reasonable assumption is the swollen respiratory membranes are the result of an allergic response to the virus, possibly due to the reaction to histamine thrown into the circulation by the allergic mechanism.

Following this line of thought, the swollen tissues interfere with drainage and ciliary activity in the upper respiratory tract. Stagnation favors the retention and provides a culture bed for pathogenic bacteria. They in turn bring on the so-called infective type of cold for which the antihistaminics are without any therapeutic value. If they get to the receptor cells they can be of some assistance to nature in maintaining physiologic function. Perhaps this has a great deal of merit, for truly the best physician is one who remembers his physiology and tries to assist nature and not take over the whole show.

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Discussion

James A. Downing, M.D., Des Moines: Not being a chemist and having little knowledge of physiologic chemistry, I will stay completely away from the discussion of the chemistry of the histamines and antihistamines.

Apparently we know as much about the antihistamines and their action as we know about allergy, and we know as much about allergy as we do about electricity. That is, we know when a wire is hot, what it will do; but what makes it work, nobody knows. Whether the allergy is a biochemical reaction in the body or just what the condition is, nobody seems to be sure. Let us give the antihistamines credit, however, for awakening the rank and file of the medical profession to the frequency and prevalence of the allergic manifestations. Especially, we who look in noses or have something to do with the asthmatics have been much more on the alert since we had something that was at least palliative. There are few practical uses of the antihistamines which I think we have learned by the rule of thumb or by trial and error. Some of these might be well to get on the record. We have all heard of the so-called sinus lung in children which usually winds up as a bronchiectasis if you leave them alone long enough. The great majority of these so-called sinus lungs have been put back on the allergic basis, and the care of their allergies has resulted in a great many cures, the relief of the cough and the nasal obstruction.

Another classification of children is those whom their parents bring in for tonsil and adenoid examinations. We find that it is always well to inquire into the allergic background of the child and also into his family, because there is nothing quite so disappointing as to promise the mother that if you take Johnny's tonsils and adenoids out, his nose will clear up and he will breathe freely, and then the nose is as stopped up after the removal of his adenoids as it was before. The routine questioning of tonsil and adenoid children before operation and, if necessary, nasal smears and such things should at least be made.

As far as antihistamines and the ordinary cold are concerned, it depends a good deal on one's viewpoint whether he believes that most colds are of the virus origin with a mixed infection on a congested mucosa or whether you are dealing with a real infection from the beginning. My own opinion is that we have both types of respiratory infec-

tions: the ones which are pyogenic organisms right from the start, and the type of allergic irritation, virus irritation or whatever it may be, which leads to a secondary infection. In the beginning if these virus irritations or allergic manifestations are in the nose, then the antihistamines are of some value. After the purulent process is started, there is little use in using antihistamine unless you go on the theory that over 50 per cent of the people are allergic anyway. Occasionally, you will find a patient who becomes sensitive to his own bacteria, and then apparently the antihistamines are of some value in a long protracted nasal infection.

As far as the asthmics are concerned, it depends a good deal on the stage of the asthma whether the antihistamines are going to be of any value. It is useless to expect antihistamines to be of any value, even palliative, after the alveoli have stretched, the bronchi have lost their elasticity and there are degenerative changes in the bronchi and in the alveoli corresponding to the development of polyps in the nose. Nobody expects antihistamines to remove polyps, although in some of the acute polypoid edemas of the nose the antihistamines are of some value.

There is a particular type of external otitis, the dry, scaly, eczematous, neurotrophic or whatever you want to call it, that responds very well to the application of antihistamine ointment plus, if necessary, the use of antihistamines internally.

As to what type of antihistamine to use, unfortunately I spent several weeks in Texas during which period of time I think the new list of antihistamines increased by leaps and bounds. I have an idea that there are now some 50 to 60 different antihistamines, and I think we have tried out a good share of them. Some are more sedative than others; some are more stimulating than others. I think the whole problem of the use of antihistamine is to tell the patient that it is purely a palliative thing, give them what you think is sufficient and then after two or three days experimenting, increase the dosage or cut it down. I know of no way that you can weigh or measure the patient or the antihistamine to figure which is going to be the right one to use and how much to use of it. We have found out by the rule of trial and error that the average dose of any of the antihistamines as it is prescribed by the drug houses is entirely too small. We have also found out that if we keep the daytime dose of antihistamines down, giving a large dose at night, that they get along with very much less complaint of drowsiness and the feeling of lassitude. We try to control the dosage, making the morning dose the lightest, the noon dose a little heavier and then the evening dose the heaviest one. It seems to hold over pretty well until the following day and, if you will prescribe enough for three or four days and then have the patient report either in person or by telephone, the dose can be increased or reduced as necessary. We have found, also, that there are a certain number of people who get along nicely on the use of antihistamine and occasionally will have an upset, possibly something

they eat, drink or are in contact with, when they will develop an allergic reaction. Then a few days of antihistamine, and they are perfectly clear and may go along for several months without any recurrence. It is useless to expect any of the antihistamines to replace the elimination of the allergic-producing proteins from the patient's habit of living. I have a personal idiosyncrasy, or you might call it an allergy, to the so-called shots for allergies. I do believe that people who are annoyed to a great extent by their allergy manifestations should be skin tested and go through the elimination test in an effort to remove from their habit of living the irritating factors, but so many times after all has been done, all we hear is that they are sensitive to house dust and should have shots from now on. Probably this steps on the toes of some of the individuals who like to do allergy tests and give shots, but I still am not a well converted believer in the habit.

I want to congratulate Dr. Harkness on the amount of reading, time and effort that he has put in to review the chemistry and the biochemistry in an effort to produce this paper.

TONSILLECTOMY AND POLIOMYELITIS—SOUTHWESTERN IOWA

1948-1949

Jack V. Treynor, M.D., Council Bluffs

During the years 1948 and 1949 a severe epidemic of poliomyelitis occurred in Southwestern Iowa. First notice of the serious months ahead was an explosive outbreak in western Harrison County following a school picnic in late May. In the weeks previous there had been a few cases to the north along the Missouri River Valley, but within a short time an epidemic had spread southward along the Missouri Valley and to the east and north along the tributary Soldier and Boyer Rivers. In 1948 Harrison, northwestern Pottawattamie and Shelby Counties produced the majority of 298 cases of clinical poliomyelitis in Southwestern Iowa. In the 1949 epidemic poliomyelitis again appeared in the same area and to the south and east. By the end of the 1948-49 period 374 cases of poliomyelitis had been hospitalized from the Eleventh Health District.

In the area under consideration there is but one hospital which is equipped and staffed for the care of polio. Although a few cases are known to have gone from the area to Blank Memorial Hospital in Des Moines and to the University Hospital at Iowa City, we have been unable to obtain information from either hospital so must eliminate their cases. The Omaha hospitals have made their records available, and their few cases from Southwestern Iowa are included. However, this study was made possible mainly through

the courtesy of Mercy Hospital at Council Bluffs and will depend on their records and reports of tonsillectomies from other Southwestern Iowa hospitals rather than on Health Department statistics for its accuracy. It is safe to assume that nearly all recognized cases were hospitalized because of the generosity of the Poliomyelitis Foundation which made such general hospitalization possible.

Since the first written observation on the poliomyelitis-tonsillectomy relationship in 1910, a mass of evidence has been presented with varying interpretations depending largely on the viewpoint of the interpreter. Thus, the conclusions of Ayers,¹ Aycock,² Anderson³ and Toomey⁴ are those of the epidemiologist and pediatrician. Langworthy,⁵ Page⁶ and Cuning⁷ reflect the natural reluctance of the otorhinologist to admit a causal relationship. Seydell,⁸ in a completely objective study, gives us perhaps the most seasoned opinion of all, assuming nothing and deducing nothing. Out of all of the writings on the subject one gets two fairly clean-cut impressions: that tonsillectomy and adenoidectomy neither increases nor decreases the over-all incidence of poliomyelitis, but that the operation when performed upon an individual who is already embarked upon the incubation of poliomyelitis may increase the chance of bulbar involvement. It is hoped that additional information may be derived from the figures to be presented, which are tabulated in as completely objective fashion as is possible. Listed as tonsillectomy are all cases of tonsillectomy alone, adenoidectomy alone and adenotonsillectomy. All cases of polio-encephalitis, bulbo spinal and bulbar poliomyelitis are listed as bulbar. The year 1947 is used as control, and in all cases of bulbar poliomyelitis the question of tonsillectomy has been checked by individual letter.

Table 1 is the simplest possible listing of tonsillectomies performed and poliomyelitis patients admitted for the years 1947, 1948 and 1949:

TABLE 1.

	T & A	All Polio	Bulbar Polio
1947	1,148	7	1
1948	983	238	32
1949	1,296	136	13

To bring the same material into better focus it has been limited in table 2 to the months May to October, inclusive, and both operation and disease have been tabulated according to the month during which they occurred:

TABLE 2.

	T & A	Polio	May	June	July	Aug	Sept	Oct
1947	215	349	111	81	131	111	998	
	0	0	0	2	3	0	5	
1948	207	217	63	75	64	64	690	
	21	9	46	46	68	38	228	
1949	356	336	104	70	46	120	1,032	
	1	4	19	38	25	19	106	

connection between tonsillectomy and poliomyelitis. However, the figures so far presented are over-all and do not reflect localized conditions in any critical period. In the hope that such an approach might elicit something of interest, table 3 was set up after dividing the Eleventh Health District into three zones:

Zone 1—Harrison, Shelby and Audubon Counties, Cass and Pottawattamie Counties north of Highway No. 6, excluding Atlantic, Oakland and Council Bluffs.

Zone 2—Council Bluffs.

Zone 3—Mills, Montgomery, Fremont, Page, Adams and Taylor Counties and Cass and Pottawattamie Counties south of Highway No. 6, including Oakland and Atlantic.

Zones 1 and 3 are essentially rural while zone 2 is entirely urban. It was hoped that because of differences in factors, such as sanitation and isolation as opposed to crowding, such a breakdown might be helpful. At least, by such zoning the main epidemic areas are isolated statistically:

TABLE 3.

Zones*	May			June			July			Aug.			Sept.			Oct.			Total
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	
1947—T & A	24	50	141	34	145	170	27	51	33	13	40	28	16	29	86	14	55	42	998
Polio	0	0	0	0	0	0	0	0	0	0	2	0	1	2	0	0	0	0	5
Bulbar	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
1948—T & A	34	40	133	52	76	89	2	36	25	5	39	31	12	24	28	11	28	25	690
Polio	15	5	1	8	1	0	27	16	3	26	8	12	37	9	22	20	3	15	228
Bulbar	3	0	1	2	0	0	2	1	0	1	1	1	9	2	3	2	0	3	31
1949—T & A	106	85	165	91	119	126	8	37	59	7	61	2	12	15	19	17	50	53	1,032
Polio	1	0	0	2	0	2	9	7	3	11	15	12	9	11	5	8	8	3	106
Bulbar	0	0	0	0	0	1	0	0	0	1	0	0	3	0	0	0	2	0	7

*Estimated population: Zone 1—70,000; Zone 2—50,000; Zone 3—98,000.

Out of all these figures I can extract no information which would suggest any causal relationship between tonsillectomy and poliomyelitis. Of course, it can be objected that in zone 1 during the critical months of July, August and September the number of tonsillectomies performed was below average, and that, had the usual number been performed during these months, some significant figures might have appeared. Such an objection can neither be refuted nor sustained.

Several writers have advanced figures which seem to show an increased susceptibility to polio in tonsillectomized individuals regardless of the date of operation. With this in mind table 4 was set up:

TABLE 4.

	T & A/Poliomyelitis*	T & A/Bulbar Poliomyelitis
1948	66/238=27% youngest-age 7 mo. eldest-age 57 yr. average-age 10 yr.	13/32=40% youngest-age 1 yr. eldest-age 38 yr. average-age 9 yr.
1949	41/136=30% youngest-age 1 1/4 yr. eldest-age 49 yr. average-age 16 yr.	7/13=54% youngest-age 8 yr. eldest-age 49 yr. average-age 25 yr.

*In each of the fractions the numerator represents the number of tonsillectomized individuals and the denominator, the total number of poliomyelitis cases in each classification.

The percentage of tonsillectomized among all cases of poliomyelitis regardless of type is approximately the same as the percentage of tonsillectomized juveniles at large as shown by table 5:

TABLE 5.

Proportion Tonsillectomized Juvenile Population. ⁸	
Aycock and Luther.....	30.0%
Kaiser (Rochester, N. Y.).....	41.5
Massachusetts Board of Health.....	32.9
Seydell (Wichita, Kans.).....	62.2
Fulton (Topeka, Kans.).....	23.6
Average	38.0%

The percentage of tonsillectomized among the bulbar cases does seem disproportionately large until the unusually high average age is taken into consideration. At this age between 40 and 50 per cent of the population should be expected to have had tonsillectomies.

Finally in table 6 a last tabulation is made of facts which do not appear clearly in the previous tables:

TABLE 6

T & A within 60 and over 21 days from onset of poliomyelitis.....	3-all spinal (living)
T & A within 21 days of onset of poliomyelitis	1-bulbar (living)
Dental extractions within 21 days of onset of poliomyelitis.....	1-bulbar (4 days) (died)
Pregnancy—2 months gestation.....	1-bulbar (living)
2 months gestation.....	1-spinal (living)
5 months gestation.....	1-spinal (living)

Summary

In the epidemic of poliomyelitis in Southwestern Iowa in 1948 and 1949, in which there were 374 hospitalized cases, 45 of which were bulbar, no connection can be demonstrated between tonsillectomy and poliomyelitis, spinal or bulbar. The figures have been broken down so as to bring into focus the most actively involved area in the most critical months, but even so no apparent connection can be made to appear. It is difficult to reconcile this report with that of Anderson³ and with those of Aycock² and the Toronto group.⁹ Perhaps in another epidemic of equal severity their experience might be duplicated. Perhaps in this epidemic we were dealing with an organism with no special affinity for the upper nervous system or with one which spent its invasive period in the gastro-intestinal tract instead

of in the nasopharynx and was given no new impetus by tonsillectomy. Conceivably, our population in Southwestern Iowa may have a high enough immune titer to withstand the more serious aspects of poliomyelitis, particularly in urban areas where the actual case rate and bulbar case rate were low. Perhaps more tonsillectomies in areas of less mass immunity might have resulted in more bulbar infections. These things one can speculate upon but cannot prove.

The one certain thing in my mind which has emerged from this survey is the conviction that all such studies must be broken down into small enough units to make possible accurate investigation of every pertinent case. Had this report depended solely on hospital or office records, as most investigations apparently have been, at least two of the three cases of polio following tonsillectomy would not have appeared. The only other worthwhile conclusion is that none of the surveys reported to date, including this one, can be taken as final evidence that tonsillectomy does or does not influence the incidence of polio of any type.

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Discussion

Thomas R. Updegraff, M.D., Waterloo: As you all are aware, this problem is a serious one and as yet has not received a satisfactory and definite answer. Furthermore, it has reached such proportions in the eyes of the public that, even though the relationship of tonsillectomy and poliomyelitis were proved to be a myth, it would still remain for many years as a barrier put up by the parents themselves.

In most localities, I believe, the men performing this surgery have met and agreed to postpone adenotonsillectomies during the latter part of the summer months. This is especially true in the epidemic areas, and I definitely agree to the latter course. However, contrary to the belief of many doctors, adenotonsillectomy is not an elective procedure in the large sense of the word. If the tonsils and adenoids are removed for other than a definite indica-

tion, then the surgeon is in error. This adds to the problem. As you know, hypertrophied adenoids are the cause of or very definitely a contributing factor in the development of recurrent attacks of otitis media, which may go on to chronic suppurative otitis media or perhaps to even more severe complications.

In these children the foremost thing in my mind is the possibility of permanent hearing loss with the accompanying social problems that result from it.

Any thinking surgeon will not operate on these children within two or three weeks of an acute upper respiratory infection. During the winter and spring months they are the ones who invariably develop a cold or another sore throat just as you have arranged for the hospital accommodations. The question that arises, therefore, is shall I go ahead in the presence of poliomyelitis or go through the danger of more hearing loss, possible mastoiditis, possible nephritic complications or greater debilitation with complicating pneumonias.

Dr. Daniel Cuning, chairman of the Committee for the Study of Poliomyelitis and Tonsillectomies, American Laryngological, Rhinological and Otological Society, wrote a letter to the editor of the *Journal of the American Medical Association*, which appeared in the December 6-9, 1949, issue. In it he states, and I quote: "This committee, a large number of the country's leading epidemiologists and many local health authorities agree on two main points: (1) tonsillectomies and adenoidectomies or any other elective operation should not be performed in a community where poliomyelitis (or any other contagious disease) assumes epidemic proportions; (2) tonsillectomies and adenoidectomies can with safety be performed in a community where poliomyelitis (or any other contagious disease) does not assume epidemic proportions."

I think that for the present at least and actually in the observance of good medical judgment that this is excellent advice. However, if the surgery is felt to be an absolute necessity, even in the face of an epidemic, I feel that before it is done the child should be more or less isolated at home for a period of three weeks, if possible, that he be admitted to the hospital the day before the contemplated surgery for blood, urine analysis, and observation of accurate temperature recordings, that he be given prophylactic penicillin to prevent intercurrent infection and that he be kept in the hospital two or three days postoperatively on penicillin and good nursing care in reference to fluid intake, and exposure.

The idea behind this is the probably correct opinion by many men that for every active case of poliomyelitis in an epidemic area there are 600 subclinical cases, and it may well be that a tonsillectomy performed on one of these 600 could be the trigger that makes it active. Therefore, all precautions must be taken to prevent any insults to the child's general condition other than the actual anesthetic and surgical procedures themselves.

CENTENARY OF THE IOWA STATE MEDICAL SOCIETY

Walter L. Bierring, M.D., Des Moines

On this centenary occasion, it is fitting to contemplate for the moment the course of events that shaped the destiny of the Iowa State Medical Society during its first one hundred years. It seems equally appropriate that our Society should meet again in the city of Burlington, where it had its beginning a century ago.

In authorizing the publication of the story of *One Hundred Years of Iowa Medicine* to commemorate the centenary of the Iowa State Medical Society, the Society recognized its obligation to present to a younger generation of Iowa doctors a moving picture of the historic development of organized professional efforts towards better medical care and the advancement of medical science in this state.

When the 25 Iowa pioneer practitioners of medicine met in the court room in Burlington, June 19, 1850, for the purpose of organizing a state medical society, it was in response to a firm belief in the minds of this small band of broad-minded physicians, with a view to the future, that organized medicine was the only means of progress toward higher educational standards, with greater benefits to the state and the people generally.

This was still an early period in Iowa history. The Iowa territory had been organized but 12 years before with the seat of government at Burlington, and Iowa had come to statehood only four years previously.

The practice of medicine, as such, was less than 20 years old. Up to this time, less than 100 physicians had come to the new state, locating mostly in the early settlements along the Mississippi River — Dubuque, LeClaire, Davenport, Muscatine, Burlington, Fort Madison, Montrose and Keokuk; then following the inland streams to Cedar Rapids, Iowa City, Washington, Columbus City, Brighton, Farmington, Salem, Keosauqua, Mount Pleasant, Fairfield, Ottumwa, Oskaloosa, Knoxville and as far west as Fort Des Moines.

It was a fine group of notable practitioners who came to Iowa before 1850. The influence of these early physicians on the social and economic advancement of the territory and state cannot be overestimated. A brief reference to a few of these medical pioneers may be of interest.

There was Dr. Frederick Andros, a graduate in the Arts and Medicine from Brown University, Providence, R. I., who came to Dubuque in

1833, and for several years was the only doctor in that part of the territory. Aside from being referred to as far superior in intelligence and ability to the average physician of his day, Dr. Andros is also described as "a typical frontiersman and something of a character." "He always wore a high silk hat, in which he carried his letters, red bandanna, cigars, stethoscope and always a clean handkerchief."

In 1836, Dr. John W. Finley, a native of North Carolina, came to Dubuque soon after his graduation from the Medical College of Ohio at Cincinnati, where he was the first office student of Dr. Samuel D. Gross, then demonstrator of anatomy and later the prominent American surgeon. After Dr. Finley's death in 1878, his estate made it possible to build a hospital, and Finley Hospital of Dubuque stands today as one of the crowning achievements of his life.

Soon after the town of Davenport was opened for settlement in May, 1836, the first physician to locate there was Dr. S. E. Barrows; the town having a population then of 100. For the first year and a half after he began practicing, the nearest physician on the south was in Burlington and on the north at Dubuque. He was chosen the first president of Scott County Medical Society, when it was organized in 1856, and served as president of the State Society in 1860. In 1847, he became the preceptor of John Forrest Dillon, a graduate in medicine of 1849, who was to have a prominent part in the founding of the medical school at Iowa City, and also to gain eminence in another profession, that of law, becoming Chief Justice of the Supreme Court of Iowa, and later professor of law at Columbia University, New York.

After Dr. Barrows, the outstanding pioneer physician of Davenport was Dr. J. M. Witherwax, who located there in 1838 after graduation from the College of Physicians and Surgeons of New York City. For 30 years, he was the leading physician of the city, including three years of service as surgeon in the Civil War. In 1853, he was elected president of the State Society.

One of the interesting and scholarly physicians of early Iowa history was Dr. C. C. Parry, who began the practice of medicine in Davenport in 1846. He was graduated from Union College, New York, with honors, and in medicine from the College of Physicians and Surgeons, New York City. While keenly interested in the practice of medicine, serving as secretary and president of his county society, he was destined to become one of the leading botanists of his day. Many plants bear his name, including the beauti-

ful blue spruce of our gardens. He collected one of the finest private herbaria in this country, comprising 1,800 classified specimens, representing nearly 6,800 species. This was later purchased by Iowa State College at Ames.

In 1839, Dr. George Reeder came to the new settlement at Muscatine. He was a graduate of William and Mary College at Williamsburg, Virginia, and the medical department of the University of Maryland in 1839. The well known Iowa historian, Irving B. Richman, refers to him as "one of Nature's noblemen—a man of high character, a fine scholar and as a physician had few equals in this part of the state. Though a southerner by birth, he held the integrity of the Union paramount and enlisted in October, 1861, as surgeon of the Second Iowa Cavalry. The hardships of campaigning proved too severe for his strength, and he was compelled to resign the second of June 1862, and departed this life on the twentieth of June, 1862, ten days after his return to Muscatine at the age of 42 years. He served as the fifth president of the State Medical Society in 1854.

In 1832 Dr. William R. Ross and Mr. Benjamin Tucker crossed the river and platted the town of Burlington. A year later Dr. Ross brought a stock of goods to the new settlement. While Dr. Ross was the first physician to locate in the new town, he evidently was more occupied with trade and civil affairs than the practice of medicine. He became the enrolling clerk of the Wisconsin Legislative Assembly, and when the territory of Iowa was created in 1838, he held this position at the first assembly in Burlington, Nov. 12, 1838.

The first physician to settle in this new frontier village to gain distinction in Iowa medicine was Dr. Enos Lowe. He arrived in 1837, soon after graduation from the Ohio Medical College at Cincinnati. He was presiding officer of the convention that adopted the Constitution under which Iowa was admitted to statehood in 1846. That he also gained high recognition as a physician is evident by his being elected the first president of the State Society when it was organized in Burlington in 1850.

Dr. John D. Elbert came to the thriving young village of Keosauqua on the Des Moines river in 1840. Born in Kentucky, the son of a physician, he graduated from the Ohio Medical College in Cincinnati and received his diploma and license in 1829 from the hands of Dr. Daniel Drake, distinguished American physician of that period. He practiced in Ohio until 1840, when he sought the "far west" for his future professional activities. By reason of his medical ability and bound-

less energy, he soon gained leadership in the new community. As a surgeon, he acquired an extensive reputation in southern Iowa and northern Missouri for his skill as an operator and for his general management of surgical conditions. He was elected the third president of the State Society in 1852.

Then there was Dr. Thomas Siveter, pupil of the great Abernathy of London, who came to the village of Salem in 1839 and gained high recognition as a surgeon. He served the State Society twice as president in 1856 and 1858.

Dr. Edward Whinery located in Fort Madison in 1840, soon after his graduation from Transylvania University, Lexington, Ky. It is recorded that he was known as a skillful and daring surgeon. Of Quaker ancestry, he was vehemently anti-slave in attitude and an active supporter of Abraham Lincoln.

Lastly, reference is made to Dr. James Moore Robertson, whose name appears frequently in early Iowa history. He graduated from Jefferson Medical College, Philadelphia, in 1827. After practicing 11 years in Pennsylvania and Ohio, he removed to Iowa territory, at Burlington, in 1838, and after a few years' practice he located at Columbus City, which he helped to plat.

While in Burlington and Columbus City, Dr. Robertson did a practice extending from Cedar Rapids to Keokuk, mostly on horseback with an expenditure of strength and energy and with an endurance hardly to be appreciated by the practitioner of today. During the prevalence of malaria in the fall and pneumonia in the winter and spring, he was almost continuously in the saddle, often traveling from 60 to 75 miles on a single trip.

He did much to help organize a new country and make treaties with the Indians whose language and customs were well known to him. He served as vice president and treasurer of the State Medical Society and four years as state senator.

In personal appearance he is described as tall and erect; wore a tall hat and blue broadcloth clothes; the type of a medical gentleman. The strong ancestral Scottish-English blood of Dr. James Moore Robertson was manifest in his son, Dr. William S. Robertson and in his grandson, Dr. Charles M. Robertson, both of whom rose to distinction in Iowa medicine.

Such were the type of Iowa pioneer physicians that helped make history in these early days. They brought with them the beginnings of general culture, and by reason of their cultivated power of observation, freedom from prejudice and super-

stition, and knowledge of the dangers surrounding the early settler, these doctors were peculiarly fitted to aid in the pioneer work of the new settlement. Under such conditions, doctors became resourceful and self-reliant, able to meet emergencies to a degree rarely seen today.

In the succeeding two decades after 1850, with increasing settlement of the western half of Iowa, an equally high-minded group of physicians came within its borders who were destined to have an important part in the advancement of Iowa medicine.

In 1850 a considerable number of the physicians practicing in Iowa were not medical graduates. Those that had not attended a medical school were often not familiar with a Code of Ethics, save one that would bring practical results. While these were disturbing elements, a liberal spirit on the better part of the physician led to the belief that society fellowship would inspire better feeling and possible higher qualifications.

The inspiring genius of the memorable occasion a century ago was a young physician, Dr. John F. Sanford of Keokuk, who may well be regarded as the father of our State Society. He had attended the third annual session of the American Medical Association in Boston in May, 1849, where a special appeal was made for all states to organize state and county societies. This made such a profound impression upon Dr. Sanford that on his return home he wrote many letters to physicians urging them to meet in Burlington the following May for the purpose of organizing the Iowa State Medical Society. Feeling that sufficient interest would not be aroused by correspondence alone, he concluded to make a personal appeal and went by stage to Keosauqua, Fairfield, Mount Pleasant, Washington and Davenport, a distance of nearly 200 miles, and then by steamboat to Muscatine, Burlington, Fort Madison and Keokuk, spending a day in each town, calling upon the physicians and urging their cooperation in this new movement.

As a result, the following 25 physicians assembled at the Court House, Burlington, June 19, 1850, to organize the Iowa State Medical Society as charter members and signed the constitution as such: Drs. Enos Lowe, John F. Henry, his son, G. R. Henry, E. D. Ransom, J. H. Rauch, J. W. Brookbank, H. M. Matthews, Charles Cutter, A. F. Bruning, R. M. McClaren and C. G. Blood of Burlington; John F. Sanford, David L. McGugin, E. R. Ford and A. S. Hudson of Keokuk; John F. Dillon and W. F. Grubb of Farmington; Nathaniel Steele and David V. Cole of Fairfield; G. Anderson Hull of Montrose; John

D. Elbert and J. W. Flint of Keosauqua; J. M. Witherwax of Davenport; J. D. M. Crockwell of Mount Pleasant and John B. Latta of Grand View.

Dr. Sanford presided through the organization meeting and presented the principal address in which he referred "to the organization of the State Society as marking the beginning of a new era in the medical history of the state, and was the first general convention of physicians ever assembled in the state of Iowa."

He spoke of "the state of the profession" during that period of Iowa history, referring to the results of "enlightened microscopical researches in the intimate organization of the human frame," and particularly to the "spirit of investigation" everywhere. He stated further "that another cause greatly contributing to the problem of medical science in America was the association of medical men throughout the country for the purpose of uniting their experience and comparing the results of their labors, and that this Society had been formed at the request of the American Medical Association." He added further that one of the advantages would be that physicians would become "socialized as a profession."

The Constitution adopted opened with the following preamble:

"For the purpose of harmonizing the profession of medicine, and of promoting its usefulness and respectability, the undersigned practitioners of medicine in the State of Iowa, do adopt the following constitution, to wit:"

Article I reads, "This Association shall be known as the Iowa State Medical and Chirurgical Society, and shall hold its regular meeting on the first Wednesday in May, of each year, at such place as the Society shall from time to time determine."

It is interesting to contemplate on the origin of the name, the *Iowa State Medical and Chirurgical Society*. Perhaps this may be an explanation. One of the charter members, Dr. David L. McGugin of Keokuk, was a graduate of the University of Maryland School of Medicine, class of 1829. It will be recalled that the State Medical Society of Maryland is known as the Medical and Chirurgical Faculty of the State of Maryland. Organized in 1799, it celebrated its sesquicentennial last year. As Dr. McGugin was chairman of the Committee on Constitution and Bylaws, it is possible he was influenced by this old traditional English term and had it applied to the new society.

The first medical journal published in Iowa at Keokuk, September, 1850, was called the Western Medico-Chirurgical Journal.

At the seventh annual meeting of the State Society in 1856 at Ottumwa, the Constitution was revised and the name changed to the Iowa State Medical Society.

In Article X of the original Constitution, membership is defined as "any regular practitioner in

good standing, may become a member of this society on presentation of a diploma from a respectable medical college, or of a license from any respectable medical society, or upon the recommendations of a majority of the Board of Censors, and the payment of an initiation fee of one dollar."

The custom of certification of qualifications for the practice of medicine by the older state medical societies was evidently followed by the Iowa State Society as indicated in Article XI. "Any person who had been thought worthy to practice medicine, surgery, etc., by the Board of Censors, who have examined him touching his skill, shall be entitled to receive a certificate of qualifications, signed by the President, or in case of his death, absence, or resignation, by the oldest vice-president and the recording secretary, for which he shall pay a fee of ten dollars."

There is no record of the issuance of any such certificates of qualification by the State Society. The Article was omitted from the revised Constitution adopted in 1856.

A Code of Ethics was adopted by the Society similar to those previously adopted by the American Medical Association.

This Society also adopted a plan of program similar to that prevailing in the American Medical Association of designating an individual member, or a small committee named by the president, to prepare a report on a special medical topic to be presented at the next annual meeting of the society.

The following resolution was also adopted: "Resolved, That in order to promote the best interests of the profession, of community and of mankind, and also to cultivate the social and scientific relations of its members, together with all the benefits flowing from concert of action, mutual interchange of opinion, and a better understanding of each other's character, and in order to render more effective the great objects of the State Society, we would recommend to our brethren in each county, the formation of a medical society, in each, auxiliary to the State Society."

The officers elected at this first meeting were: president, Dr. Enos Lowe, Burlington; first vice president, Dr. D. L. McGugin, Keokuk; second vice president, Dr. J. D. Elbert, Keosauqua; recording secretary, Dr. H. M. Matthews, Burlington; treasurer, Dr. G. R. Henry, Burlington, and librarian, Dr. John F. Dillon, Farmington.

The meeting adjourned to meet in Fairfield, Jefferson County, on the first Wednesday of May 1851.

It may be of interest to quote several expressions from their early minutes of the new Society. At the second meeting of the Society in Fairfield in 1851, Dr. John F. Sanford, on behalf of the Committee appointed to report upon "the causes which contribute to depress the sciences and dignity of the medical profession," stated that, "one of the principal causes was the practice of admitting young men to the study of medicine without a respectable preliminary education, and recommended that this Society urge upon its members the propriety of examining all young gentlemen who apply for the benefits of private pupillage, upon their preparatory education, with a view to discourage such as are deficient in this respect, from entering upon the study of the profession, in the ranks of which they can never obtain prominence, and the usefulness and dignity of which they are not competent to promote." He recommended further, "to exert our influence both by precept and example in sustaining our Code of Medical Ethics, and that all invasion and infraction of the great moral law of the medical profession will forfeit the claim of any physician to the fellowship and privileges of our Society." He regarded "the practice of attending families by the year, as calculated to forfeit to the medical men the permanent respect of the community. The medical services of an enlightened and benevolent physician are not to be made an article of traffic and bargain. His commerce is with health, the lives and happiness of the human race, and should be as free from purely mercenary influences as his honor and reputation."

The retiring president, Dr. Enos Lowe, introduced his successor, Dr. David L. McGugin of Keokuk, in the following words: "You have assigned me the honorable position as president of your Society for the first year of its existence; that period is now at an end, and my worthy and respected successor, Dr. D. L. McGugin, is about to take my place. May your organization strengthen and improve with each succeeding year, until no educated and respectable physician can be found within the borders of our state who is not a member of it. Let us adhere to our Society as worthy of affection, acting up to its objects and ethics, and by so doing we shall make it an instrument of good to our fellow men, and a means of advancing the dignity and honor of the profession. In parting with you, it is the cherished hope that a year hence we may all meet again with increased interest to each other and in the promotion of the objects of our Society." We quote with pride these noble expressions of the founders of our Society.

The minutes of the annual minutes from 1850 to 1858 are fortunately preserved in the files of the two medical journals, the *Western Medico-Chirurgical Journal* (1850-1853) and the *Iowa Medical Journal* (1853-1858). From 1859 to 1867 the records were quite incomplete and such limited information as was available was obtained from various sources.

Appreciation is here expressed to Dr. W. S. Binford, the historian of the Scott County Medical Society, for making available the carefully prepared minutes of that society since its organization in 1856.

The State Society published annual transactions of the meetings from 1867 to 1906. Then for six years the proceedings and papers were published in the *Iowa Medical Journal*, edited by Dr. E. E. Dorr, and after 1912 in the *Journal of the State Society*.

In this brief review of centenary events, certain items recorded in the annual proceedings may possibly serve as the best index of the change in medical thought throughout the hundred years.

At the second meeting in Fairfield in 1851, interesting reports were presented on the outbreak of cholera in the summer of 1850, principally in Keokuk and Burlington; Dr. J. Haines of Fairfield reported 40 cases with 25 deaths, and Dr. G. R. Henry of Burlington of 410 cases, with a mortality of 25 per cent, the lower death rate in Burlington being attributed to the removal of the large part of the population out into the country where only a few cases occurred. A few cases were reported in Muscatine and Ottumwa, but none in the intermediate towns.

The treatment was general and local; ipecac and blue mass were given to remove "noxious" matter from the gastro-intestinal tract; tincture of opium to relieve the painful cramps, and lead acetate as a further astringent. Warm or hot bathing relieved the dry skin.

In both reports contagion was not considered a prominent factor in transmitting the disease. Hot weather and insanitary surroundings were regarded as the principal causes. However, President Dr. Enos Lowe, in proposing resolutions of tribute for Dr. A. F. Bruning of Burlington, a charter member of the State Society who had died of cholera contracted during the epidemic in the summer of 1850, stated that Dr. Bruning, a few days before he became ill, had expressed his conviction of the "infectiousness of the disease," and his liability to an attack in being so much with the sick, particularly in close, filthy apartments.

The third meeting of the Society was also held

at Fairfield in 1852. A significant item noted was the election of Dr. J. C. Hughes of Keokuk to membership, who was destined to rise to great prominence in the affairs of the State Society. As dean and professor of surgery of the College of Physicians and Surgeons, Iowa University at Keokuk, he distinctly influenced the cause of medical education in Iowa. He served the State Society twice as president, in 1857 and 1866.

The fourth session (1853) was in Davenport, and the fifth (1854) in Muscatine. At the sixth annual meeting (1855) in Keokuk, Dr. John C. Bell of Wapello reported the operation (January 3, 1855) for the removal of a bar of lead eleven inches in length from the stomach of a man 32 years of age. The man was a sword swallower, and in giving an exhibition of his art on Christmas day 1854, the bar of lead had accidentally slipped from his fingers and gone into the stomach. The patient recovered without complications and lived many years afterwards. The case was later fully reported in the *Boston Medical and Surgical Journal*, January 19, 1860.

At the seventh session (1856) in Ottumwa, a new Constitution was adopted, which changed the name of the society to the Iowa State Medical Society. The articles on membership read: "To include any regular practitioner in good standing, his name having first been submitted to the Society by a regular member, with the exhibit of a diploma, or license, from a respectable medical school or society."

The small attendance at the eighth session (1857) in Iowa City was stated as "being due to inadequate transportation; railroad connection was only with Davenport, the Rock Island, and it ended at Iowa City. All other transport had to be by stage coach, horseback, or by horse and buggy." It is stated further "to offset the disappointments of a small attendance, a 'sumptuous repast' was provided at the Clinton House at the expense of the Iowa City Medical Society and a 'rich entertainment' was further provided by Messrs. Trexel and Wentz."

The 1858 session at Mount Pleasant was reported in the local paper, the *Mount Pleasant Home Journal*, and that is the only record of the meeting available. It is stated that "the attendance was small, owing to incessant rains and floods, making practically all roads impassable," so that even many of the physicians from Henry county could not reach the city of Mount Pleasant on account of high water. However, delegates were present from as far as Dubuque, Davenport, LeClaire, Iowa City, Keokuk, Burlington, Fairfield and Salem.

In reporting the evening meeting, at which Dr. D. L. McGugin of Keokuk presented an address, it is noted that "owing to the hydropathic state of the weather there was not a full house," but following the evening program "a banquet had been prepared by the Henry County Medical Society, where at ten o'clock the members and guests sat down to a 'sumptuous repast' of lavish expenditure and excellent taste." His excellency Governor Lowe was present and responded to the toast "Iowa and her Governors."

Annual meetings were held in 1859 at Davenport, in 1860 at Dubuque, in 1861 at Burlington and in 1862 at Iowa City, at which officers were elected each year,* but no further data can be obtained.

At the 1862 session, Dr. Hiram T. Cleaver of Keokuk was elected president of the Society. He served a second term in 1875.

According to the minutes of the Scott County Medical Society aforementioned, delegates were selected to attend a State Society meeting at Iowa City in May 1863, but there is no further record of a meeting in that year.

In announcing the 1864 session at Iowa City, president Dr. Cleaver referred to it as a reorganization meeting of the State Society.

The meeting in 1865 was held in Ottumwa and the Society met at Davenport the following year, May 9, 1866, of which an account of the meeting, with officers elected, was published in the *Boston Medical and Surgical Journal*, June 14, 1866.

The seventeenth annual session of the Society was held in Davenport, Wednesday, February 5, 1867. Because of the "large" attendance (35 old and new members) it was decided to hold a two-day session. The treasurer, Dr. M. B. Cochran of Iowa City, reported a balance of \$231.50 in the Society treasury. The presiding officer was that scholarly physician, Dr. J. W. H. Baker of Davenport, who presented an address entitled "Medicine Not an Exact Science," which would make good reading today.

For the first time it was decided to hold a meeting of the Society as far west as Des Moines, and a resolution was adopted, "asking the Polk County Medical Society to act as a committee of arrangements and to supply accommodations for the next meeting of the Society, to be held in Des Moines the first Wednesday in February, 1868."

The Society met at Des Moines on Wednesday, February 5, 1868, with president William Wat-

son of Dubuque presiding. In his address he referred to this meeting of the State Society "as an epoch in its history, as the first ever held in the State Capitol, and to be regarded as an indication of the realization of our long cherished hopes that the influence of our Society is being extended, and that it shall be felt over the entire state, and at each succeeding annual meeting, all parts of the state shall be fully represented."

The most important action taken at this meeting was the adoption of the Articles of Incorporation of the Iowa State Medical Society. This document was signed by six trustees of the Society: Edward Whinery of Fort Madison, J. W. H. Baker of Davenport, William Watson of Dubuque, S. B. Thrall of Ottumwa, A. G. Field and H. L. Whitman of Des Moines. The notary public attesting the same was F. M. Hubbell, later a leading capitalist and prominent citizen of Des Moines.

At this session Dr. William Gutch of Blakesburg presented a report on "Obstetrical Statistics," carefully prepared, comprising 537 cases in his practice during ten years. This included ten cases of twins, two monsters, two convulsions, two placenta previae and accidental and alarming post partum hemorrhage in 11 cases. "Two of the mothers were lost, one from puerperal fever, and the other died suddenly, thirty minutes after delivery without any hemorrhage. Twenty-two of the babies were stillborn, many of them premature."

At the session in Des Moines in 1869, Prof. J. C. Hughes of Keokuk reported the result of operating on one patient four times for vesical calculi during a period of six years, from 1855 to 1860. The patient, General Whitmire, made a good recovery each time and was living at the time of the report.

At the session in 1872, Dr. A. G. Field of Des Moines, in his presidential address entitled "The Present Attitude of Medical Science," emphasized new methods of diagnosis, particularly with the microscope. "It has been brought into recognition in the prosecution of nearly every branch of medical study. In the pathology of parasitic and of zymotic diseases, especially it has inaugurated a new era." He states further "that infections of the several kinds consist of living organisms, either animal or vegetable, each possessing uniform and constant characteristics. When the nature of each of these shall have been fully discovered, together with the most efficient means for their destruction, it is more than probable that the rational treatment of this large class of diseases will be established."

*At the 1859 session Dr. Allen Phillips of Dubuque was elected corresponding secretary of the Society. His name is the same as present secretary 1950.

The State Society met for five successive years in Des Moines and then voted to meet in Marshalltown in 1873. After this it usually met on alternate years in Des Moines, and altogether the sessions of the Society have been held fifty-two times in the capital city. It met for the first time as far west as Council Bluffs in 1883 and at Sioux City in 1887.

At the session in 1875 the first woman physician was elected to membership in the State Society. She is referred to as Doctress Delia A. Irish of Davenport. At this same meeting also a paper was presented by Dr. William Watson of Dubuque on "Women Physicians and Their Education," which "elicited a very interesting discussion."

At the Des Moines session in 1876, President W. F. Peck of Davenport presided, and in his address recognized that this was the centennial year of our Republic and presented a very comprehensive review of the progress of medicine and surgery during the hundred years. He directed attention to the fact that five signers of the historic document were physicians. He urged that special effort be made in medical research and investigation, and in that connection offered a prize of one hundred dollars for any approved essay on original research. It reads like a masterful address, indicating a broad viewpoint of the entire field of medicine. Dr. Peck was then thirty-five years of age, the youngest president to serve in that position.

At this meeting delegates were chosen to the International Medical Congress in Philadelphia, September 4 to 9, 1876, as follows: Drs. J. C. Hughes, J. W. Smith, A. G. Field, S. B. Thrall, William Watson, E. W. Clark, P. J. Farnsworth, D. S. Fairchild and J. M. Emmert. It was at this Congress that Dr. Joseph Lister of London presented his address on "Wound Infection and Antiseptic Surgery."

The following year, 1877, at the Cedar Rapids session, President H. C. Bulis of Decorah presided. He was a former lieutenant governor and state senator and was then serving as a regent of the State University.

His presidential address was largely devoted to the progress on medical education, and his reference to the tendency to specialism in medicine is interesting. "Among the younger members of the profession, and recent graduates, it is particularly noticeable. The opinion is becoming quite too prevalent that specialism is the only road to wealth, position and fame; that the general practitioner is but a satellite to the specialist, shining only in his reflected light and entitled

to consideration just in proportion as he confined his efforts to the development of a single idea. It is unpleasant to contemplate the possible consequences of this growing tendency to confine the mind within such narrow limits, while the whole domain of science is open to investigation. Nor is it true that specialism is a more certain passport to public favor and its attendant benefits, than that of general practice."

"To obtain distinction as a specialist necessitates that thorough knowledge of medicine in all its departments, which can only be acquired by years of active practice as a general practitioner and other things being equal, he will be the most successful specialist who has served the most faithfully in the daily routine of professional duty."

His closing words express well the theme of his address: "In conclusion, gentlemen, a high degree of professional excellence is more to be desired than great wealth or loud popular esteem."

At the session in 1881 at Dubuque there was general gratification expressed in the address of the president, Dr. S. B. Chase of Osage, as in several resolutions over the final enactment by the preceding legislature of establishing the State Board of Health, and particularly over the appointment of Dr. William S. Robertson, a former president of the Society, as the first president of that board.

There was equal gratification four years later when the Medical Practice Act became effective, the Board of Health with the medical secretary constituting the State Board of Medical Examiners.

During the eighties a new concept of infection and the application of antiseptic surgery was noted in the different papers presented at the meetings of the State Society.

Of particular significance was the report presented at the Des Moines session in 1884 by Dr. M. G. Sloan of Dexter of a case of perityphlitis with the following clinical history: patient male, 25 years, farmer, previous good health, examined at office May 12, 1883. Onset of severe pain in right inguinal region following "the vigorous kicking of a horse and missing it"; laxative pills increased the pain; physical findings: "deep seated non-fluctuating tumor in lower right abdominal quadrant. Three days later aspirated and removed purulent exudate, repeated daily, pus having decidedly fecal odor. Eleven days after onset seen by Dr. George P. Hanawalt of Des Moines in consultation, who advised an incision by the side of the aspirator needle, which resulted in an abundant discharge of pus which

gradually lost its fecal odor. With the discharge appeared "a white hog's bristle" which, according to the author, was "probably swallowed by the patient and passed into the vermiform appendix, creating irritation resulting in perityphlitis. On the twentieth day symptoms of general acute peritonitis appeared, with increasing tympanitis and death occurred on June 5, 1883, 26 days after onset of illness."

"An autopsy revealed acute general peritonitis with extensive adhesions about the abscess cavity connected with the appendix veriformis."

The author expressed the regret that an incision had not been made earlier and hoped the narration of the case would enlist greater interest in such cases and their management.

The publication of the paper by Dr. Reginald Heber Fitz of Boston describing the pathology of the vermiform appendix and giving it the name appendicitis did not appear until 1886.

At the Sioux City session in 1887, Dr. D. S. Fairchild of Ames reported a case of Addison's Disease and also gave a microscopic demonstration of tubercle bacilli before the Section on Microscopy.

At the session in 1888, Dr. George F. Jenkins of Keokuk reported a case of chronic ascites in a woman 66 years of age. It was first diagnosed "cirrhosis of the liver" and later as multiple serositis, in which over a period of six years abdominal paracentesis was done 117 times, being tapped about every six weeks, and 4,000 pounds of fluid removed. The patient appeared to be gradually improving at the time of the report.

In 1889 at the Keokuk session, Dr. Lewis Schooler reported a case of perforating appendicitis in a boy eight years of age, with operation on the third day and complete recovery. The diagnosis was made before operation; the appendix being ruptured in the middle portion.

The Waterloo session in 1891 was distinguished by the scholarly address of the president, Dr. W. D. Middleton of Davenport, in which he presented a clear concept of the phenomenal progress of medicine in the light of the newer knowledge of bacteriology and preventive medicine, with great possibilities in preventive immunization and vaccination. He urged the need of the County Society as the unit of organization similar to the plan adopted by the American Medical Association ten years later.

An interesting feature of this meeting was a paper read by Dr. Oscar Burbank of Waverly on the subject, "What Shall We Do to be Saved?" which was a satire on the method of licensing doctors of medicine, claiming there were still

many practitioners who held no diploma from an approved medical school. Dr. Burbank was a graduate of Harvard Medical School, 1847, a pupil of Dr. Oliver Wendell Holmes, and as a student assistant of Dr. J. C. Warren, professor of surgery, was present at the first demonstration by Dr. Morton of the use of ether as an anesthetic at the Massachusetts General Hospital in October, 1846.

At the Des Moines meeting in 1894, Dr. Charles E. Ruth of Keokuk demonstrated the use of the Murphy button in intestinal anastomosis on the dog, and reported its use in two cases of intestinal obstruction in the human with recovery.

The State Society met in annual session for the first and only time in Creston in 1895. That it was voted a most successful and interesting session was largely due to the efforts of Dr. Frank E. Sampson, assistant secretary, who is present at this session 52 years later.

At this meeting a demonstration was made of the first preparation of diphtheria anti-toxin west of New York City by Dr. W. L. Bierring at the University laboratory of Bacteriology, Iowa City and a report of its use in Iowa in the treatment of diphtheria.

At the Marshalltown meeting in 1897, Prof. Launcelot W. Andrews of the State University, presented a paper on the "Nature and Manipulation of the Roentgen Rays." This was the first discussion on x-rays ever presented before the Iowa State Medical Society, being only two years after the discovery of x-rays by Roentgen in Germany.

It was ably presented and clearly indicated the possibilities and limitations of the x-ray in clinical diagnosis. A following paper by Dr. E. E. Hobby of Iowa City on the "Medical Legal Aspects of the Roentgen Ray" pointed out that "shadows producing the skiagraph" are subject to the same laws, as shadows are produced by ordinary light and vary with the position, angle of incidence, and magnitude of the light." He further stated "We have to bear in mind the conditions required for the production of this kind of evidence; these are necessary, an expert, expensive apparatus and a dark room. Not in the full light of day, as the ancients required testimony to be given, but in a room where persons, surroundings and apparatus are obscured and changed in appearance, must the evidence be taken. Undoubtedly the courts will recognize that the opportunity for manufacturing and distorting evidence are much greater under such circumstances."

The several contributions to the State Society

programs have been described to indicate that the early members of our Society were good observers, clear thinkers and had rare insight into the future.

The sessions of 1901, 1902 and 1903 were largely concerned with the new plan of organization proposed by the American Medical Association.

At the 1901 meeting a new committee on Constitution and Bylaws was appointed, comprising D. S. Fairchild, Clinton, chairman; W. J. Findley, Sac City and Van Buren Knott, Sioux City. This committee was directed to attend the session of the American Medical Association in St. Paul and study carefully the plan of reorganization of that association, so that eventually the Iowa State Medical Society might be organized in harmony with it.

"The new plan of reorganization proposed that every regular and reputable physician in the United States become a member of his County Society, by thus doing, becoming a member of his State Society and finally becoming a member of the American Medical Association."

The most important feature of the 1902 meeting was the presentation and first reading of the new Constitution and Bylaws and, according to rules, was laid over for one year. As stated in President Guthrie's address, the American Medical Association at its meeting in St. Paul in 1901, had approved the reorganization plan and constitution and bylaws governing the same. The new State Constitutions were patterned after it, and to make the reorganization complete on a national basis, it was necessary for each state to approve the reorganization plan conforming to that of the national association.

The new constitution and bylaws as proposed were essentially the same, with slight changes, as the one under which the Society was operating, except that the County Society became the unit of organization. A House of Delegates was established, composed of delegates elected from each constituent County Society. The House of Delegates became the legislative and policy making body of the State Society, the house choosing its delegates to the annual session of the House of Delegates of the American Medical Association.

The officers of the Society to be a president, two vice presidents, a secretary, an assistant secretary, a treasurer, six trustees and a judicial council composed of six members, all to be elected by the House of Delegates.

It provided for several standing committees, the districting of the state as prescribed by law for

the distribution of the members of Congress, a definite date for each annual meeting, and designated the following sections to be formed: Obstetrics and Gynecology, Medicine, Ophthalmology and Otology, Surgery, State Medicine and Diseases of the Mind and Nervous System.

The dues of the State Medical Society were to be \$2.00 annually.

At the 1903 session at Sioux City, the Iowa State Medical Society made history by adopting a new Constitution and Bylaws, which placed it in conformity with the reorganization plan of the American Medical Association.

This was not accomplished, however, without vigorous opposition from some of the leaders in the profession. It was claimed that it was not the same as presented last year; again a prominent member believed that adoption meant legislating the Society out of existence.

"After a long discussion, the motion was made to adopt the Constitution and Bylaws as read, and carried unanimously, its adoption being followed by great applause."

A resolution was adopted that a councillor be elected by this Society for each congressional district, whose duties shall be to assist in organizing or reorganizing the county societies in their respective districts, as follows:

First district, C. E. Ruth, Keokuk.

Second district, W. L. Bierring, Iowa City.

Third district, D. W. Crouse, Waterloo.

Fourth district, W. J. Egloff, Mason City.

Fifth district, G. E. Crawford, Cedar Rapids.

Sixth district, D. C. Brockman, Ottumwa.

Seventh district, E. E. Dorr, Des Moines, chairman.

Eighth district, F. E. Sampson, Creston.

Ninth district, J. M. Emmert, Atlantic.

Tenth district, C. H. Churchill, Fort Dodge.

Eleventh district, E. Hornibrook, Cherokee.

At the 1904 session in Des Moines the chairman of the Board of Councillors, Dr. E. E. Dorr of Des Moines, reported that 87 of the 99 counties had been organized under the new plan. That in 55 counties where societies were not in existence, such organization had been formed and that the total membership had reached in round numbers 1,500, or a gain in one year of about 100 per cent.

He stated further, "that radical changes in the organic law of any institution usually met with opposition and in several counties the expressions of disapproval were somewhat emphatic, and from one county (Dubuque) a memorial was being presented to the State Society signed by all members, including a past-president of the State So-

ciety (James R. Guthrie), claiming the adoption of the new constitution was not in accord with the provisional requirements of the constitution in force at that time."

A year later the Dubuque County Society applied for a charter of membership, but insisted that its previous protest be made a permanent record of the Society.

At the 1905 meeting the new chairman of the Board of Councillors, Dr. George E. Crawford, Cedar Rapids, reported that all county societies has been organized, except one, that of Des Moines, adding, "There exists in this county one of the oldest and largest county societies in the state. A few persons in that county have been active opponents in reorganization, others have been strongly in favor of it, but to prevent a division in the profession, the advocates of reorganization, who embrace the best men in the state, have taken a conservative course, and rather than to organize a new society, to wait awhile, hoping that all may be brought to see the advantages of the reorganization."

Within a few years all county societies were organized under the new plan, 95 single county and two double county organizations, Dallas-Guthrie and Hancock-Winnebago county societies.

During the last half century the State Society has greatly extended its various activities for the betterment of its members and the health and welfare of our people. It was a period of great hospital expansion and significant progress in medical diagnosis and treatment. It witnessed the development of protective vaccination and immunization as well as therapeutic sera in the important infectious diseases; the introduction of insulin in the treatment of diabetes and liver therapy in pernicious anemia; the vitamin, hormonal and antibiotic forms of therapy; the remarkable achievements in the various fields of surgery and increasing interest in industrial, occupational, mental and chronic diseases and finally the startling announcement within the year of the production of cortisone and ACTH and their beneficent effect in rheumatic arthritis and other related conditions, possibly changing our entire concept of the aging problem.

All of these evolutionary developments have distinctly influenced the trend and character of medical practice.

In 1907 the Society adopted a plan of legal protection against malpractice, under the direction of a Medical Legal Committee, with a prominent attorney as legal advisor.

On July 1, 1911, the first number of the *Journal of the Iowa State Medical Society* ap-

peared and, through the able editorship of Dr. David S. Fairchild, that Nestor of Iowa medical journalism, followed by Ralph R. Simmons, Lee Forrest Hill and Everett M. George, have brought this publication to a place among the leading state medical journals in this country.

In 1913, by merger with the Drake University Medical School the College of Medicine of the State University of Iowa at Iowa City became the center of medical education in this state.

The State Society, representing as it does the medical profession of Iowa, has always and will continue to have an active interest in the training of its future physicians. The interests of these two agencies are closely integrated and dependant on each other in order to maintain the highest attainment in the field of medical education and that of medical practice in this state.

Through its Speakers Bureau, in cooperation with the faculty of the University College of Medicine, and more recently the State Department of Health, the Society has been active in promoting continuing education of its members, through postgraduate institutes in different parts of the state in the several fields of medicine and surgery. The custom of inviting distinguished guest speakers to contribute to the annual scientific programs has been a further stimulus to keep abreast of the continuing advance in all fields of medicine.

There is hardly need to bring forth the spirit of ennobling sacrifice and patriotic response to military duty on the part of the Iowa doctor in each of the great wars that have come in this centenary of Iowa medical history.

In World War II, through efficient society organization and special committees, it was possible to maintain the highest standards of medical service to the people of Iowa, even though more than one-third of its members were in military service.

It has come to this Society, as to the entire American medical profession, to feel the impact of a revolutionary philosophy regarding the delivery of medical care, endangering medical freedom through undue encroachment of governmental control agencies in the field of medical practice.

Through its Committee on Public Relations, and by encouraging the principle of protective insurance against illness, hospital care and the need of medical service through the establishment of the Blue Cross and Blue Shield movements, the thinking of our people in regard to Federal control of medical care has been changed more profoundly than any other agency.

The establishing of a Grievance Committee as authorized by a special session of the House of Delegates last January will go far towards harmonizing and promoting still better relations between physician and patient in the future.

The administrative functions of the State Society have extended far beyond what was thought possible 50 years ago.

Through able boards of trustees, with the cooperation of the executive councils, this Society has been placed on a sound business basis. It is now distinctly a financially solvent institution and, with a budget of annual expenditures of one hundred thousand dollars, indicating its wide sphere of society activities.

With its efficient central office staff and actively working standing and special committees, it is able to conserve the interests of the Iowa profession all throughout the year.

The wise selection of a general manager will still further aid in the coordination of the manifold society activities, and thus fulfill the hopes of those noble medical pioneers who made this organization possible.

There is the natural urge to dwell at greater length on some of the interesting and inspiring personalities that passed along the way in this first century of Iowa medicine. Many you will remember, and others have left the record of their achievement that will always be to us a sacred tradition. May this centennial session be our tribute of affection and continued devotion to the ideals that they inspired.

Conscious of the rich heritage of the past, we look ahead with new zeal, faith and courage to the still wider opportunities for service in the fields of medical education, higher attainments of medical practice, public health and human welfare.

College of Medicine
State University of Iowa
**CLINICOPATHOLOGIC
CONFERENCE**
May 3, 1950

Summary of Clinical Record

A 52 year old married man was seen in the private office on July 13, 1949. He complained of blurring of vision and of pain in the back of the neck, which radiated up the sides of the head into the eyes, for a period of five months. He was a lumber salesman and farmer. He did not smoke excessively or use alcohol to excess. His father died of unknown cause. His mother was alive and well. He had six sisters and one brother,

alive and well. He gave a history of a light attack of pneumonia several years previously. The patient dated his present illness to an accident which was sustained in February, 1949. A crowbar fell down an elevator shaft a distance of 14 feet, striking him on top of the head, in the left parietal region. He was not knocked unconscious, but was dazed slightly. He walked away from the scene of the accident. There was a slight scalp laceration. The doctor dressed his wound, which healed in a few days. Approximately ten days afterwards he began to develop an aching sensation in the back of the neck, mostly in the right suboccipital region at first. The pain would radiate up over the top of his head, through his ears, and into his eyes. At first the pain was intermittent, but eventually became constant. He denied stiffness of the neck. Changes in weather made no difference in respect to his pain. There was no dizziness. He complained of pain in the eyes, and spots in front of his eyes. He vomited analgesic medicine which he had taken one week previously. There was no difficulty referable to his arms and legs, except that he was weak generally. He had been sleeping poorly. His spirits were poor, and he had to force himself to work. It was becoming increasingly difficult for him to relax. He stated that he was losing weight, but the exact amount is unknown.

Physical examination revealed a fairly well-nourished man who was alert and cooperative. His weight was 155 pounds. The corrected vision was 6/6 in each eye. His pupils were round and equal, reacting well to light and in accommodation. Rotations and fields were normal. Examination of the retinas showed generalized sclerosis, with narrowing and constriction. There were numerous striate hemorrhages and cotton-wool patches scattered over each fundus. There were a few deep, hard exudates in each perimacular region. His hearing was good, and his face was symmetrical. There was no stiffness of the neck. Physical examination of the chest revealed normal breath sounds. The heart was not enlarged to physical examination. The rate was 80 per minute. The rhythm was regular. The blood pressure was 235/125. Examination of the abdomen revealed a well-healed hernioplasty scar on the right. The strength of the extremities was good. There was no ataxia. Rapid alternate movements were performed normally. The reflexes were active and equal, and the sensory examinations was normal. His station and gait were normal.

The specific gravity of the urine was 1.010. There was 3 plus albumin. No sugar was pres-

ent in the urine. There were many fine and coarsely granular casts. Serologic tests on the blood were negative for syphilis. X-ray films of the skull were normal. The pineal gland was calcified and was not displaced. X-ray films of the cervical spine were entirely normal. The urea nitrogen value was 22 mg. per 100 cc., and the creatinine value was 1.0 mg. per 100 cc. The hemoglobin was 13 grams, the white blood count 9,000, and the smear was normal.

He returned for re-examination on August 19, 1949, indicating that the headaches were becoming increasingly severe and were requiring increasingly large amounts of analgesics. At this time his blood pressure was 270/140. There was no change in the examination of his fundi. At this time the specific gravity of the urine was 1.012, and it contained 2 plus albumin. The hemoglobin value was 11.8 mg. per 100 ml., the red blood count 4.22 millions per cu mm., the white blood count 9,700. There were 88 segmented polymorphonuclear leukocytes, 1 eosinophil, 7 lymphocytes, and 4 monocytes, per 100 cells. The urea nitrogen value was 38 mg. per 100 ml., and the creatinine value 3.2 mg. The heart was within normal limits as to size, but the left ventricle was prominent, according to the report of the chest roentgenogram. The urologist reported no evidence of hypoplastic kidney. A procaine infiltration of the right suboccipital region gave relief from the headaches, so on August 26, 1949, the greater occipital nerve and artery on the right side were sectioned by the neurosurgeon. Microscopic report of this nerve showed a normal nerve bundle. This operation resulted in relief from the headaches. He was discharged from the hospital on August 27, on rice diet therapy.

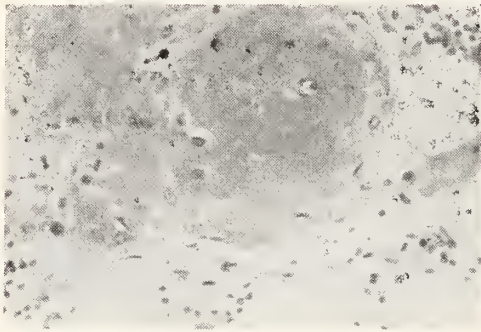


Fig. 1. Pancreas, necrotizing arteriolitis.

He was brought back to the hospital on September 20, 1949. In the interval he had lost a great deal of weight, had become very weak, and had developed bouts of epistaxis. He was ambulatory until five days before admission, however.

On admission he was semi-conscious, dehydrated and exhibited irregular respirations. His blood pressure was 240/130. There were many hemorrhages and exudates in the eye grounds. The hemoglobin value was then 7.5 gm. per 100 ml., the erythrocyte count 2.3 millions per cu. mm., and the leukocyte count, 12,200. Rales were present at both lung bases. X-ray film of the chest showed passive congestion of both lung fields and a further enlargement of the heart. The urea nitrogen value was 150 mg. per 100 ml., and the creatinine value 13.3 mg. The sodium value of the blood plasma was 295 mg. and chloride value 456 mg. per 100 ml. The carbon dioxide combining power was 44 volumes per cent. Terminally, he was unable to take oral fluids. He became increasingly lethargic and died two days after his last admission.

Dr. Adolph L. Sahs (Neurology): We will start this conference with a brief resume of the protocol. This man was 52 years of age and was referred to me originally by Dr. Horace Kornis. He complained of headaches of a rather anomalous type which he dated to a period shortly after he was struck in the head by a crowbar which fell a distance of 14 feet. This injury, however, was sustained in the left parietal region and his pains, which began from a week to ten days later, were most severe in the suboccipital region and spread to the vertex and up over the eyes. His headaches gradually became worse, so bad, in fact, that he had difficulty in working, was unable to relax, quite tense and moderately depressed. During the course of the examination it was found that he had a rather severe retinopathy. The blood pressure was 235/125, he had albumin and casts in his urine. There seemed to be no question that the man had developed a severe hypertension and the problem resolved around the question: was his hypertension responsible for his headaches or was there some other cause? During the course of the investigations nothing else was found which might have been considered contributory. He was returned home on an analgesic after that original out-patient examination. The remainder of the history deals with several return visits and the course of events terminally. First of all, I'd like to hear from the students.

Student: The majority of the students felt that this was a malignant hypertension, probably idiopathic in type. There is a hypertension which results from cranial injury, a damage to the brain, which is rarely seen. It was considered possible that there was a chronic glomerulonephritis which, in a terminal stage, might give this picture and although studies (x-ray) showed no contraction of the kidney this could not definitely be ruled

out. Also considered was subdural hematoma causing the increased blood pressure, but there were no signs to indicate a tumor in the cranium. Pheochromocytoma was mentioned but there was no tachycardia. Cardiac arrhythmias were absent and there were no other signs which are usually found with this tumor. Cushing's disease was mentioned. So, in short, it was the feeling of the class that it was an essential malignant hypertension resulting in death from uremia and heart failure.

Dr. Sahs: As far as I was concerned originally, the differential diagnosis revolved around a subdural hematoma, hypertensive headache and an anxiety state. Let us go back and call on Dr. Korns who saw this man originally.

Dr. Horace M. Korns: I first saw this patient October 18, 1947. He was complaining at that time of a dull pain in a sort of semi-circle across the left pectoralis major. He had noticed this for several years, but recently it had been worse. He sometimes felt the same sensation in the right infraclavicular region. The discomfort was not related to exertion, eating or excitement. It did not radiate anywhere and had never been severe. In short, it did not seem to me to be of cardiac origin. The patient stated also that he had pain in his right shoulder, but there had been no disability of the right shoulder. He was working every day, and the discomfort that he had bothered him more at night in bed than it did at any other time. I made a complete physical examination at that time and found very little worth reporting except in the negative sense. He had normal eye grounds as near as I was able to tell. His blood pressure was 150/85. There was no evidence of recurrence of his old hernia. His spine was negative to physical examination. There was no limitation of motion of the left shoulder, but there was slight tenderness over the shoulder joint anteriorly. The heart was negative to physical examination and the electrocardiogram was perfectly normal. At that time, no question of hypertension, benign or malignant, could have been raised. The next time I saw the patient was July 9, 1949. He was complaining of what Dr. Sahs has just told you about, namely, a pain in the occipital region which went around the head to the eyes. This was constant and interfered with work and sleep. It was not aggravated by motion of the head in any direction. I do not know whether I measured the patient's blood pressure at that time. There is no record that I did. I have here only a transcript of the notes that I made then. He did have a roentgenologic study of the skull and the cervical spine at this time, and both were consid-

ered to be normal. An orthopedic surgeon, Dr. T. J. Greteman, saw the patient with me, and both of us felt that he should consult Dr. Sahs.

Dr. Sahs: Well, after his first examination, I prescribed an analgesic sedative for him in the form of sodium amytal. Apparently he went back to his home and came under the care a short time later of Dr. Wolverton. Will you please tell us about your findings, Dr. Wolverton?

Dr. B. F. Wolverton, Cedar Rapids: Apparently this man was referred to us because I had taken care of his sister who had a ruptured intracranial aneurysm some time previously. She had a headache; her headache got better under my care, so it was thought that I could cure this man's headache. He entered St. Luke's Hospital on July 31. I will not review our findings in detail because they do not differ markedly from the work-up here. We did one test that was not mentioned in the protocol here; a sodium amytal test checking his blood pressure hourly overnight. The lowest reading was 240/150 so that he showed no response whatever to sodium amytal and, therefore, was not considered a suitable case for the Smithwick operation. The lowest blood pressure reading we ever got was 190/120. We felt that he had severe advanced atherosclerosis as indicated by his hypertension, fundus changes, the urinary evidence of renal damage, a moderate azotemia demonstrable cardiac enlargement, and sclerosis of his accessible peripheral arteries. The pressing problem was the strange type of headache. He described his headache a little differently to us than to Dr. Sahs. He told Dr. Sahs that the pain radiated forward from the suboccipital and occipital area to his eyes and ears. To us he described it as originating below the occiput passing up over the occiput to the vertex.

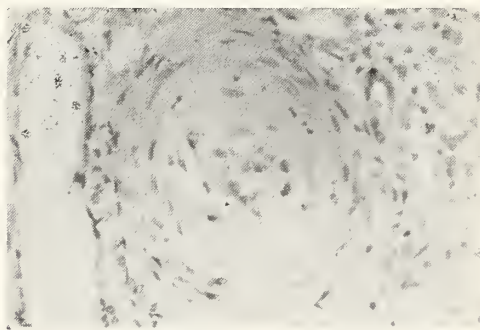


Fig. 2. Kidney arteriole, intimal hyperplasia.

According to the patient, his wife and the family doctor, the headache drove him and everyone else frantic. The doctor was being called out several times a day and during the night; he had given him "demerol" and sedatives which resulted in

only transient relief. Because of the location of the headache, we considered the possibility of this being an occipital neuralgia. We had never heard of an occipital arteritis comparable to a temporal arteritis but played with the idea, and, the last day or two that he was in St. Luke's Hospital, we discussed the possibility of infiltrating the area of the occipital artery and nerves with procaine, but on the morning on which he was transferred to the University Hospital, he had one of these severe, violent headaches. I have copied the note that was made by the resident that morning. He said, "the patient sure threw a 'tizzie' this morning. When first seen he looked and acted like a wild man; his pupils were dilated and his eyes were wild looking; he did not recognize the nurse or myself, whom he knows very well; he flopped around the bed and was very irrational; unable to take the blood pressure; gave sodium amytal, grains $7\frac{1}{2}$ intravenously with the help of six nurses, which just took the edge off." Still later the resident gave him a quarter grain of morphine and he was asleep when we made rounds. We felt that the services of a neurosurgeon would be desirable and also a good neurologist so we transferred him to the University Hospital. I have never seen anyone with hypertension who had pain in the occipital area as severely as this man seemed to have. The question arose as to whether or not the pain actually was severe. We had understood that Dr. Sahs had been inclined not to take the pain very seriously. I have gained the impression over the years that there is a small but definite group of patients who are past middle age for the most part, with usually a mild grade of hypertension and arteriosclerosis, who complain rather insistently of pain in this area. I have done nothing to prove that impression nor have I made any attempt to find out by what

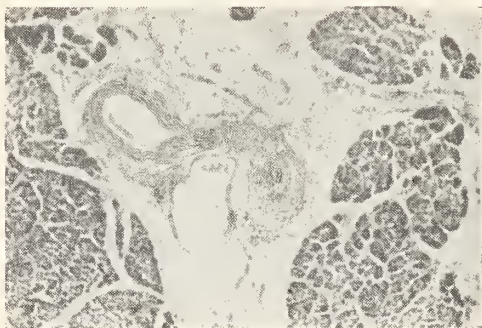


Fig. 3. Pancreas, focal arterioleitis.

mechanism such pain could arise. One thinks of the possibility of some involvement of the occipital nerves or occipital artery and, since most of these patients have some degree of hypertrophic change in their cervical spine, that comes up as

a possible causative factor. This man's pain was very much more severe than that particular group of patients described. Frankly, I do not know how severe this man's pain was. This particular episode that was described was quite impressive, and everyone who saw him in it was convinced that he was suffering very severe pain.

Dr. Sahs: Now comes the better part of this picture. I was away on vacation at the time and Dr. Coffee and one of the other members of the staff did just that. Dr. Wolverton has suggested that possibly an injection of novocaine in the excruciatingly tender area in the right suboccipital region would give relief and it did. Dr. Murray Franklin saw him about the same time. He was subsequently referred to the neurosurgeon, and an incision was made over this area and the nerve and suboccipital artery on the right side were sectioned. This pain was immediately relieved and he had no recurrence. Then he went on and ultimately died on September 20, 1949, in a state of increasing azotemia.

Clinical Diagnosis

Malignant hypertension.

Necropsy Diagnosis

The immediate cause of death was massive intracerebral hemorrhage into the basal structures of the brain, with subarachnoid and intraventricular extension. Hemorrhage was apparently due to hypertensive vascular disease. The vascular lesions were chiefly of the diffuse hyperplastic type with many foci of arteriolar necrosis and cellular hyperplasia. Organs most severely affected included the kidneys, pancreas, spleen and brain. The heart weighed 600 grams and was moderately dilated. A focus of severe atherosclerosis of the descending branch of the left coronary artery was present, with intramural hemorrhage beneath an intimal plaque causing partial occlusion of the lumen of this artery. The lungs were acutely congested and edematous, and there was massive pleural effusion bilaterally. The kidneys showed rather extensive arteriolar sclerosis and necrosis, but the renal lesions were less conspicuous than indicated by the degree of nitrogen retention.

Necropsy diagnoses:

Intracerebral hemorrhage, massive, with subarachnoid and intraventricular extension.

Diffuse arteriolar sclerosis, with focal necrotizing arteriolitis.

Arteriolar nephrosclerosis.

Cardiac hypertrophy and dilatation.

Atherosclerosis, with intramural hemorrhage and partial occlusion, anterior descending branch, left coronary artery.

Azotemia.

Pulmonary congestion and edema.

Massive pleural effusion, bilateral.

Congestion of liver.

Malignant hypertension (clinical).

Dr. F. W. Stamler (Pathology): The autopsy findings in this case were those of far advanced vascular disease of the type associated with primary hypertension. There was a moderate degree of atherosclerosis of the aorta and large vessels. The more significant findings were in the small arteries and arterioles throughout many organs of the body. This involvement was extremely widespread but certain organs were involved to a greater degree than others; these included the kidneys, brain, pancreas and spleen. The kidneys showed advanced arteriolar lesions of the diffuse hyperplastic type, and in addition, lesions of a more acute necrotizing and fibrinoid degenerative type. Similar lesions were found to a lesser degree in other organs. The heart was greatly enlarged; it weighed 600 grams, was dilated and the myocardium was rather symmetrically hypertrophied. There was considerable evidence of early myocardial failure. The lungs were congested and edematous and there was bilateral pleural effusion of about 1200 cc. bilaterally. The liver was considerably enlarged and congested. The other significant findings were those in the brain.

The terminal course of the disease was associated with massive intercranial hemorrhage which included intracerebral hemorrhage involving the bases of both the cerebral hemispheres. There was a large amount of extravasated blood in the subarachnoid space about the base of the brain and in the cisterna magna, and there were considerable accumulations of blood within the ventricular system of the brain, particularly the fourth ventricle.

This case demonstrates the vascular lesions associated with the late stages of the primary type of hypertension of the more malignant variety. Hypertension has been classified in various categories, including the cerebral type, the myocardial type, the coronary type and the renal type. In this case we have a combination of all of these types. He had acute renal failure with uremia as a result of the disease, he had early myocardial failure, and he had coronary artery disease which might have proved fatal to him. None of these processes were destined to be fatal, and he died of massive intracranial hemorrhage.

Dr. Sahs: I would judge then from the report that we have just heard that this was not a case of panarteritis nodosa, that the man did not have

a subdural hematoma, that he did not have any pheochromocytoma, and that the cerebral hemorrhage was of recent origin and apparently was not in evolution throughout these several months when he was complaining of the severe headaches. That much seems to be clarified as far as possible. Let us go back now to the problem of the headache and see if we can add anything to the discussion of the factors which brought it on. With the normal appearance of the nerve itself and the small vessels which were removed, we can assume, at least, that this was not an inflammatory disease of nerve or arteries in the suboccipital regions. Then I suppose we will have to determine, if we can, whether this was an anxiety type of reaction or whether it represented something else. This man had a history of a previous episode, an affair two or three years previously. There were emotional factors which Dr. Wolverton might choose to mention. Dr. Wolverton laid the groundwork for some type of relief, I can not say whether the cure was through the procaine injection and the operative section, whether it was a result of some breakup of some trigger mechanism, or the result of suggestion. But the fact remains, after the nerve was sectioned, the headache stopped and the man went home the next day and did not have any headaches after that time.

The subject of headache associated with arterial hypertension is an extremely interesting one. The typical hypertensive headache has some characteristics which are fairly well identified. They usually are a dull and diffuse ache, often intermittent but sometimes continuous. They are usually located suboccipital and often awaken the patient at 4 or 6 o'clock in the morning and diminish after

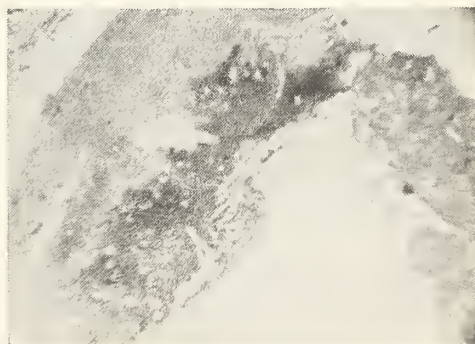


Fig. 4. Coronary artery atherosclerotic plaque with intramural hemorrhage.

the patient has had a cup of coffee and starts to stir around. They may recur during the day, however. Sometimes people are much more comfortable or have fewer of these headaches if they sleep in a head up position. It is thought

that this particular headache has some relationship to migraine, in that it is a vascular headache, probably one which is due to a vascular distension. However, not all people with hypertension have headaches. Dr. Robie reported 448 patients who had hypertension of whom 218 did not have headache of any type. So in the persons who do have headaches there may be something about the fact that they are susceptible, whatever that statement means, and that there is a problem of vascular distension which is created by an additional factor of the headache. There is another type of headache which is recorded in hypertensives and, so far as I am able to determine, it does not differ a great deal from the ordinary anxiety tensional headaches which many people experience. It is a dull, annoying or nagging tension type or stiffening headache which many people experience. Sometimes we are inclined to blame this type of headache upon the hypertension which we may find as an incidental feature. I would like to ask Dr. Meyers if he will comment on the possible mechanism of relief of headache in this particular instance and secondly in view of the completed picture, whether sympathectomy might have helped this man. The operation was considered but I believe it was not carried out for one reason or another.

Dr. Russell Meyers (Neurosurgery): I can add nothing to what Dr. Sahs had to say about the mechanism of the headache in hypertension. There is, however, a contributory observation, made in 1916 by John Shepard in his famous monograph on the circulation during sleep, which may help us understand the matutinal character of the hypertensive headache. Shepard's observation was to the effect that the volume of the brain increases during sleep. This is confirmed by neurosurgical observation in that when the bone flap is sacrificed, affording an opportunity to observe brain volume, such patients exhibit a larger volume as sleep continues. Contrarily, toward the end of an ordinary day's activity, the brain volume often diminishes sufficiently to produce a depression or concavity of the head contour. This is all I can add to an understanding of the morning headaches in hypertensive patients.

I desire to make clear one matter pertaining to the discussion on this case: the operation which was performed had no intention other than palliation. It was performed solely to relieve the headache. Ample warrant existed for recommending and carrying out this operation: first, it had been satisfactorily demonstrated by Dr. Wolverton and confirmed in our own hands that the patient could get temporary relief from novocaine infiltration of the suboccipital region which

presumably blocked the adventitia of the occipital artery as well as the accompanying occipital nerves; second, the empirical observation is that we have frequently afforded patients gratifying relief from headaches of both the hypertensive and migrainous types by interrupting the superficial and deep temporal arteries, the middle meningeal artery as it comes through the foramen spinosum and/or the occipital artery and its accompanying nerves. These are relatively simple procedures and may be resorted to with impunity when conservative measures for the relief of headache fail.

Dr. E. D. Warner (Pathology): Dr. Meyers, is there any particular reason for the one side being better than the other? This was the right occipital nerve?

Dr. Meyers: None of which I know.

Dr. M. Franklin (Medicine): I first saw this patient on his second admission. At that time I was asked to see him in consultation by Dr. Hesser who told me that he had been seen elsewhere and here by Dr. Sahs and himself and it was uncertain as to what was the cause of his headache. I did not think that I would be of much help inasmuch as he had already been seen by competent internists and neurologists. However, I examined the patient at the time and had the benefit of all that was found previously by others. I believed the patient had typical malignant hypertension and headaches are one of the main symptoms of this condition. The patient told me that his headaches would begin on the right side in the occipital area and then spread forward frontally and from there become generalized. He specifically stated that the headache started at a particular spot in the post auricular area and when this point was pressed upon, the headache became accentuated. Wolff, Page and Corcoran, in their books, state that frequently headache in hypertension, as Dr. Sahs has already mentioned, is due to a similar mechanism as is found in migraine headache. In many instances this type of headache has been relieved by an arteriectomy. That is the reason I asked Dr. Sweeney to inject the particular spot complained of by the patient as the site of origin of his headache. The patient's headache disappeared after procaine injection and I believed an arteriectomy was going to be performed. However, Dr. Sweeney sectioned both the occipital artery and nerve, believing that this procedure was preferable to a simple arteriectomy. As Dr. Meyers has stated, such a procedure is mostly symptomatic for alleviating his headaches but in no way affects the general hypertensive condition or his eyesight.

This was made clear to the patient's wife. I would like to say a few words about the therapy, about which there may be some disagreement. Malignant hypertension is notoriously difficult to treat. I know of no effective treatment and I have never seen a case get well. I told the patient's wife, that in my opinion, the ultimate prognosis was poor and that he probably would not live more than two years and perhaps less. I explained to her that I thought we might be able to relieve his headaches and treat his hypertension. I was unable to tell her how much we could accomplish for the latter condition. Just about that time we were beginning to use pyrogen therapy which has recently been advocated for malignant hypertension. We do not know what the ultimate results will be with this form of therapy. Pyrogen therapy is time consuming and extends over a period of two to three months. I suggested that we try this therapy but because of the economic factor, and the uncertainty of any definite prognosis, the patient decided he would rather be treated at home. A rice diet is the only form of therapy by which a patient with this disease can be treated at home. Kempner has described several cases of malignant hypertension which have shown remarkable remissions with rice diet. In my own experience I have never seen any good results in malignant hypertension with this form of therapy. In fact, the patients usually get worse. It has been shown that marked restriction of salt and protein (which essentially is what the rice diet is) depresses kidney function. Having nothing else to offer the patient, I explained to the patient's wife that we would try the rice diet at home and if his condition deteriorated, abandon it in favor of an ordinary low salt diet. The question of sympathectomy arose. Dr. Hesser and I believed that he was not a fit candidate for this procedure in as much as he was already in beginning uremia. Dr. Sweeney thought sympathectomy might be considered after other forms of therapy have been tried. However, the patient did not desire surgery. Three weeks after discharge, the patient was readmitted. His condition had obviously deteriorated and he appeared preterminal. Rales were present at the lung bases and I believed he was in congestive failure. His breathing was acidotic and his blood chemistry showed an increased NPN and depressed sodium and chlorides. It is possible that the rice therapy contributed to the latter finding. He was given parenteral saline cautiously but he did not respond to therapy and went downhill quite rapidly. It was possible that the patient already had the cerebral hemorrhage shown at autopsy

although when I examined him 24 hours before he died, I could not elicit any abnormal localizing signs of a cerebral accident. As I stated previously, I have never seen a patient with malignant hypertension recover. Perhaps now, with pyrogen therapy, there may be some hope for these patients.

Dr. Sahs: So far as the treatment of the headache is concerned, if it cured his headache, that is excellent regardless of the methods by which the therapy were arrived at. Dr. Wolverton do you have any additional comments to make about this case?

Dr. Wolverton: There were several reasons for thinking that this man's headache might be on a functional basis. In the first place, its very bizarreness suggested that. In the second place, his wife hovered over him constantly. I don't mean that that in itself is a cause of functional headache, but I think all of us are a little suspicious of patients who have the family gathered around giving them devoted attention nearly all day and night. It did not conform to the headaches that we usually see in hypertension. On the other hand, it is just possible that we do not know everything about headaches, and the fact that this headache was rather unique in our experience did not necessarily prove that it could not exist. The mere fact that his wife was extremely attentive did not prove anything; it was her right to be so if she desired. I am awfully glad that the artery and nerve were sectioned. If I encounter another case like this in the future, I will certainly be inclined to use the same treatment.

Dr. George C. Albright: Is the change in brain volume during sleep strictly due to position?

Dr. Meyers: We think it is.

SPEAKERS BUREAU RADIO SCHEDULE

WSUI—Tuesdays at 11:45 a.m.

WOI—Thursdays at 11:15 a.m.

August 1-3	Heart Disease As A Public Health Problem
	Allan G. Felter, M.D., Van Meter
August 8-10	Rheumatic Heart Disease
	Jean LePoidevin, M.D., Waterloo
August 15-17	Heart Failure
	H. F. Dolan, M.D., Anamosa
August 22-24	Coronary Artery Disease
	Edward Kopecky, M.D., Maquokette
August 29-31	High Blood Pressure
	Harry Weinberg, M.D., Davenport

STATE DEPARTMENT OF HEALTH

Walter Biering

IMMUNIZATION CHART NOW AVAILABLE

This immunization chart, in addition to being a permanent record of any child's immunizations, is designed to give parents some information about reactions following immunizations, and also to give a schedule of booster or second immunizations.

The page contents of the chart are as follows:
Page 1. Title: Immunization Chart Issued by the State Department of Health.
Page 2. To the Parent.

This folder gives you a permanent record of immunizations received by your child. Be sure to complete any series of immunizations once they are started. One or two doses of a series will not give your child adequate protection. Suggestions for after care of various immunizations are also given.

IDEAL SCHEDULE FOR IMMUNIZATIONS

4 to 6 months.....	Diphtheria, Whooping Cough and Tetanus
6 months	Smallpox
18 months	Booster Diphtheria, Whooping Cough and Tetanus
Entrance to School....	Booster Diphtheria, Whooping Cough and repeat Smallpox
10 years	Booster Diphtheria, Whooping Cough, Tetanus, repeat Smallpox
15 years	Schick

REVIEW OF RECENT ACTIVITIES OF THE DIVISION OF TUBERCULOSIS CONTROL

A review of the activities of the Division of Tuberculosis Control for the past six months is directed toward the two programs which have been functioning simultaneously and without interruption, namely, the Contact or Case-Finding Program and the County-wide Mass Radiography project.

Four field nurses conducted 27 Contact Programs under the direction of the clinical super-

IMMUNIZATION RECORD

NAME _____ BIRTH DATE _____

PARENT'S NAME _____

TYPES OF IMMUNIZING	DATES OF INJECTIONS			DATES OF BOOSTER INJECTIONS		REACTION
	1	2	3	1	2	
DIPHTHERIA						
WHOOPING COUGH						
TETANUS						
OTHER IMMUNIZATIONS AS TYPHOID, ETC.						

	DATE GIVEN		REACTION
SMALLPOX VACCINATION			
SCHICK TEST			
TUBERCULIN TEST			

Repeat smallpox upon any known exposure; repeat typhoid, Rocky Mountain spotted fever and others if vacationing or moving to areas where prevalent. In addition to above schedule, tetanus toxoid booster should be given prophylactically after any injury which might predispose to tetanus.

These charts are available upon request to any physician or any nurse who may be arranging immunization clinics.

visor and with the assistance of an x-ray technician.

The County-wide Program was carried in seven counties. The work was planned and supervised by the field organizer. With two assistants, she conducted meetings and conferences and gave individual instruction to local chairmen on the ways and means of conducting a county-wide x-ray survey.

In counties where a nurse is not employed, the follow-up on patients needing early observation is conducted by the staff field nurses. This service has been of real value to the private physician, helping him to diagnose suspected cases of tuberculosis.

The division has been fortunate in securing the

part time services of two physicians; one who interprets the miniature films and another who reads the 14x17 films.

Following is a statistical summary of the two programs for the six months' period ending June 30, 1950:

Statistical Summary for Period Ending June 30, 1950

CONTACT PROGRAM*

Counties Particip.	Chest X-rays	Tbc. New	Tbc. Old	Non Tbc. Find.	Healthy Chests	Other Misc. Find.	Total Mantoux	Pos.	Nurse Phys.	Visits Homes
27	1,263	110	52	453	648	495	600	200	402	1,049

*Work on 4 additional counties completed—figures not yet available.

COUNTY-WIDE PROGRAM*

Counties Particip.	Number Miniat.	Ref. For Large Films	Films Taken	New	Tbc. Old	Non-Tbc. Findings	Healthy Chests	Other Misc. Findings
4	57,026	1,441	993	177	9	511	296	619

*Work on 3 additional counties completed. Figures not yet available.

MATERNAL MORTALITY IN THE UNITED STATES AND IN IOWA

A study recently issued by the U. S. Children's Bureau presents a picture of maternal mortality in the United States. Since 1933 the rate of maternal deaths has steadily dropped from 61.9 deaths per 10,000 live births to 13.5 deaths per 10,000 live births in 1947. This is a decrease of 78 per cent. There is a definite difference in death rates of white and non-white women. Although the non-white death rate has decreased from 96.7 deaths per 10,000 live births to 33.5, it is still much higher than the rate for white women. This is largely attributable to the fact that in areas with large non-white population, mothers are being delivered by untrained midwives and are not having medical care for complications of pregnancy. Iowa does not have this problem, as the non-white population is too small to influence the death rate.

Iowa ranks eighth in the United States for maternal deaths with a rate of 9.2 deaths per 10,000 live births. Seven states, Minnesota, Connecticut, Delaware, Utah, Wyoming, Massachusetts and Oregon have lower maternal death rates than Iowa. The lowest rate (Minnesota) is 6.1 deaths per 10,000 live births and the highest rate is 26.1 deaths per 10,000 live births. The over-all average for the United States is 13.5 deaths per 10,000 live births, appreciably higher than Iowa's rate.

The study further shows the reasons for improvement in these death rates by dividing the deaths into the various causes of maternal deaths. The common causes of deaths during childbirth, infection, hemorrhage, shock and toxemia, have all decreased. This has been due to the advances made in treatment and prevention of shock, hemorrhage and to the conquest of infection by sulpha drugs and penicillin. Toxemias are largely pre-

ventable if an expectant mother has good medical supervision during her pregnancy. The improvement of death rates due to toxemia are due to increased antenatal care. Since 1933 the number of mothers delivered at home has decreased from 63 to 15 per cent. In case of the non-white, the decrease has only been from 82 to 50 per cent, another answer to why the non-white have such a poor chance of survival during childbirth.

BIRTH REPORT FOR YEAR 1949 STATE OF IOWA

Multiple Births		Full Sets	1 of each set a stillbirth	2 of each set a stillbirth
Twins	652	24	0	
Triplets	6	3	1	
Sex		Color	Attendant	
Male	32,522	White	62,314	M.D. 59,706
Female	30,373	Negro	459	D.O. 3,142
Not stated	1	Mexican	79	Midwife 22
Undetermined	1	Indian	25	Nurse 13
		Yellow	20	Parent 13
				Not stated 1

Total 62,897 Total 62,897 Total 62,897

Weight at Birth*	Total†	Male	Female
N.S.	862	446	415
1 lb. & less.	96	46	50
2 lbs.	204	106	98
3 lbs.	349	168	181
4 lbs.	747	384	363
5 lbs.	2,366	1,111	1,255
6 lbs.	8,744	3,728	5,016
7 lbs.	20,272	9,619	10,652
8 lbs.	19,009	10,304	8,705
9 lbs.	8,018	5,064	2,954
10 lbs.	1,853	1,271	582
11 lbs.	326	239	87
12 lbs.	44	30	14
13 lbs.	7	6	1
Total	62,897	32,522	30,373
Average weight	7.4 lbs.	7.5 lbs.	7.2 lbs.

Period of Consultation	N.S.	Mature	Immature‡	Total
N.S.	75	974	122	1,171
1st mo.	4	5,828	403	6,235
2nd mo.	15	16,311	1,108	17,434
3rd mo.	27	16,595	1,063	17,685
4th mo.	13	7,577	462	8,052
5th mo.	6	4,236	314	4,556
6th mo.	3	2,859	211	3,073
7th mo.	5	2,079	156	2,240
8th mo.	3	1,388	84	1,475
9th mo.	3	912	57	972
10th mo.		4		4
Total	154	58,763	3,980	62,897

(Continued on page 433)

The JOURNAL *of the* Iowa State Medical Society

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Highlights of the AMA Meeting

Registration at the meeting of the American Medical Association held in San Francisco the last week in June totaled 23,655, of whom 10,119 were fellows and members. It was the biggest attendance of any AMA session ever held in San Francisco. Those attending were favored by beautiful weather and exceptional hospitality on the part of the California doctors.

Dr. John W. Cline of San Francisco was named president-elect of the Association and his speech of acceptance was one of the most powerful ever delivered.

"We are fighting for the freedom and the medical welfare of the people of our country," he said. "Our cause is estimable. Our position is strong. Our major dereliction has been the failure to develop to its full potential the aggregate strength of the individual members of the profession. I do not refer to dissident individuals or rump organizations of left wing orientation. These are numerically and intellectually insignificant and do not merit our attention."

"Most of our state associations and county societies have responded well. A considerable majority of our members have provided splendid support but far too many have not. This condition arises, not from a difference of principle, but from failure to understand the problem. The active and vigorous participation of this group is essential and must be obtained at the local level."

The gold medal for original research went to Dr. Lester R. Dragstedt and his associates (of

whom Dr. E. R. Woodward, son of Dr. L. R. Woodward of Mason City, is one) for their special operative technic by which dogs' stomachs were completely isolated so that the secretion of gastric juices could be studied in a way heretofore impossible. The studies provide a new understanding of the therapy of peptic ulcer.

The silver medal was presented to Dr. Robert Elman and associates and the bronze medal to Drs. A. C. Ivy and L. R. Krasno. The metabolic unit of the University of California was awarded the first prize in the clinical class for its diagrammatic presentation of the complex physiology of the glands of internal secretion.

One of the highlights of the convention was the broadcast of Dr. Elmer Henderson's inaugural address over two national broadcasting networks June 27. He was heard by an overflow crowd at the Palace Hotel and by many persons throughout the nation.

A full report of the transactions of the House of Delegates appears elsewhere in the JOURNAL.

The Sanitary Aspects of Commercial Laundries

Many problems of community interest involve the application of bacteriologic principles to the prevention of disease transmission. One of the contributing factors to the solution of some of these problems is the production of sanitary laundry.

In a two year investigation of commercial laundry methods from a sanitary viewpoint, Dr. Lloyd Arnold, department of Bacteriology and Public Health of the University of Illinois Medical College, concluded that commercial laundries are so effective in destroying and removing bacterial accumulations as to be extremely important public health agencies.

Thousands of tests were conducted during the survey, not only at the American Institute of Laundering, but also in many plants in the Chicago area. Some 250 additional laundry owners in other localities, both in the United States and Canada, cooperated in obtaining check data.

A major fact established by the survey was that commercial laundry washing methods are far more effective in destroying and removing bacteria than home washings. The average bacteria count in the last rinse for colored clothes loads as found in 109 commercial laundries was 77 per c.c. compared to 318,792 per c.c. as found in nine different homes for a total of 180 tests. For white clothes loads in the same laundries, the average count was 31 per c.c.

Many colored pieces of necessity must be han-

dled at a temperature in the vicinity of 100 F. which is too low to be of any significance as a bactericidal procedure. The principal mechanism for removing bacteria from colored clothes includes dilution by the use of numerous suds and rinses, plus the effect of soap. In addition, a souring operation utilizing acetic or oxalic acid is of great value in destroying residual bacterial carried over from the last rinse.

Poorer results secured under home conditions undoubtedly may be traced to the use of fewer gallons of water per pound of clothes, shorter washing time, lower temperatures in many comparable types of work and to the use of the same suds or rinse water for all or numerous classifications of clothes.

In view of the extravagant claims in the promotion of new laundry detergents, it is interesting to note that our commercial laundries are deeply interested in controlling the microorganisms that increase so markedly during the warm months of the year.

House Fly Detoxification

Numerous experimenters have noted that the common house fly (*Musca domestica*) becomes less susceptible to the toxic action of DDT after one or more season's exposure. It is interesting to note that an attempt is being made to add synergists in order that DDT may be more effective.*

Any physicians who attended the Iowa State Fair in 1949 were undoubtedly impressed with the absence of flies from the fairgrounds. If the present experimentation aids in increasing the effectiveness of the solutions used, further benefits from fly control can be anticipated. Such measures are valuable not only from personal comfort but from the control of communicable disease.

Free Drugs in England

In the *London Daily Mirror* of May 31, 1950, Claud Morris, one of their reporters, makes a plea for some method to cut £20,000,000 off the English Health Bill by limiting the unnecessary prescriptions which are now allowed under the National Health Act. He believes that such a limitation could provide 3,000 more hospital beds a year. With over three million prescriptions being filled in England every week, he feels that at least one-third of these accomplished as much as though the medicine were poured over Niagara Falls.

Instances were cited in which one physician prescribed a half pint of an expensive liniment where two ounces could suffice. Another physician prescribed 100 tablets for an asthmatic patient where

one-fourth the medication would have been adequate. Another doctor prescribed 100 tablets for weight reduction when 50 would have been over generous. Seven other doctors interviewed stated they could cite far worse examples. One physician pointed out that an English doctor who prescribes tonics with a sherry base "gets a good reputation for his nice medicine," where a doctor who prescribes nux vomica and water at one-twentieth the cost is apt to lose his National Health patients.

One druggist pointed out that closer cooperation between the druggist and the doctor is necessary. He recommended to the Pharmaceutical Society that druggists should be allowed to dispense cheaper and other alternatives to expensive prescriptions unless the prescription is marked "not alterable." This is in keeping with an official government list of recognized alternatives which can be supplied at a fraction of the cost of certain proprietary medicines.

It is undoubtedly true that these experiences in England would certainly be duplicated in this country if our own government were to interfere with the present practice of medicine.

LETTER TO THE EDITOR

Dear Dr. George:

In the June issue of the JOURNAL OF THE IOWA STATE MEDICAL SOCIETY, on page 280, in the Report of the Annual Meeting of the Woman's Auxiliary, a summary of my comments at that meeting is presented. I am reported as recommending "That the profession and their wives concentrate their efforts against socialized medicine only." Since this does not represent my opinion, I am taking this opportunity to clarify that statement.

Physicians and their wives as *individuals* should fight with all of their strength against socialism, whether it pertains to medicine or any other private enterprise. Physicians and their wives, as members of a *medical association* or *woman's auxiliary*, should concentrate their attack against legislative proposals constituting or leading to socialized medicine. This is the decision of the Board of Trustees and the House of Delegates and has been taken for sound tactical reasons. It is inadvisable for medical associations and their auxiliaries to communicate with members of Congress on matters that do not pertain to medicine since such communications are not considered authoritative and tend to reduce our influence on medical matters concerning which we can speak with absolute authority. On the other hand, as *individuals* participating in other organizations or acting alone, we should take every possible action to prevent socialism.

I hope that this clarifies the point that I tried to make to the Woman's Auxiliary.

Sincerely,
ERNEST B. HOWARD,
Asst. Secy., A.M.A.

*Perry, A. S.; and Haskins, W. M.: Science (June 2) 1950.

NEWS NOTES

from the

Committee on Medical Service and Public Relations

PUBLIC INFORMATION SUB-COMMITTEE MEETING

The Sub-committee on Public Information of the Committee on Medical Service and Public Relations held an informal meeting July 9 at the home of Dr. and Mrs. Fred Sternagel. Dr. Otto Glesne, Chairman of the Sub-committee, presided. Dr. R. D. Bernard, General Manager, Iowa State Medical Society; Miss Mary McCord, Executive Secretary; and Mr. Don Taylor, Field Secretary, were present. The meeting was called for the purpose of drafting final plans for the second annual medical-radio-press conference to be held in Des Moines September 8. The committee also discussed publicizing the Grievance Committee of the Iowa State Medical Society. There was some difference of opinion on this matter. The field secretary was asked to contact top management of several industrial plants to get their reaction and suggestions for establishing a method of making the Grievance Committee known to their employees. After this has been accomplished, the information will be referred to the Grievance Committee for their study and recommendations.

The code of relations between physicians, radio and newspaper men was reviewed briefly. A meeting on this matter was held in Ames, July 25. Those in attendance were Dr. Otto Glesne, Fort Dodge; Dr. Fred Sternagel, West Des Moines; Dr. Otis Wolfe, Marshalltown; Mr. I. W. Myers, Legal Counsel; and Mr. Don Taylor, Field Secretary. The conclusions of this group will be presented at a joint meeting of physicians, radio and newspaper men to be held the latter part of August.

REORGANIZE BLUE SHIELD CLAIMS DEPARTMENT

The claims department of Blue Shield is undergoing complete reorganization. The rapid growth of the plan has made it necessary for administrative procedures to be altered. Because of the increase in enrollment and claims, it has been necessary to acquire additional office space and personnel. The plan recently employed Mr. Tom Garbett as executive assistant and head of the claims department. Mr. Garbett has been associated with the Iowa State Medical Society as assistant field secretary for the past year. His previous training in counseling, administration and the acquaintances he developed with the medical profession while employed by the State Society prompted the plan to request his services. Mr. Garbett began his new duties July 10, 1950.

BLUE SHIELD PAMPHLET AVAILABLE

The Committee on Public Relations of the Woman's Auxiliary to the Iowa State Medical Society has prepared an information brief on the Blue Shield Plan. This brief was thoroughly explained to representatives of various units at a state meeting of the Woman's Auxiliary at Hotel Fort Des Moines, July 19. The Blue Shield plan was explained in detail, and the women were asked to become familiar with the plan and to pass the information along to their friends. A descriptive pamphlet on Blue Shield is now available and requests for this material are welcomed. Please write the office of the Iowa State Medical Society.

VISIT TO COUNCILOR DISTRICTS

Dr. Otis D. Wolfe, of Marshalltown, Chairman of the Council of the Iowa State Medical Society, has completed a tour of the councilor districts of the Iowa State Medical Society. Dr. Wolfe was of the opinion that if he could meet the district Councilors in their home district, he would have a better understanding of their problems. He made these trips three successive week-ends. The state was divided into three sections and a section was covered each of the three week ends. These contacts were preliminary to a meeting of the Council that was held July 19 in Des Moines. The Council conducted a business meeting in the morning and then sat in as guests at the meeting of the Auxiliary in the afternoon.

BLUE CROSS-BLUE SHIELD NATIONAL PUBLIC RELATIONS CONFERENCE

The fifth annual Blue Cross-Blue Shield National Public Relations Conference was held July 27 to 28 at the Knickerbocker Hotel, Chicago, Ill. The field secretary of the Iowa State Medical Society represented the Iowa Blue Shield plan at this meeting, sponsored by the Blue Cross and Blue Shield commissions.

The program included discussions on the need for market research in Blue Cross-Blue Shield planning; the sales promotion aspects of reaching the rural, woman's, labor and management market of Blue Cross-Blue Shield and a discussion on how Blue Cross and Blue Shield can serve the hospital and physician market.

More information on this Blue Cross-Blue Shield conference will appear in this column in the August Journal.

MEETING OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION

The House of Delegates of the American Medical Association was called to order by the Speaker, Dr. F. F. Borzell of Pennsylvania, at 10 a.m. June 26 in the Palace Hotel in San Francisco. Dr. Borzell, in his speaker's remarks, mentioned that some of the policies of the hospitals are inimical to the welfare of the medical profession and the public and called for thorough study of the Hess report before voting upon it during the session. He mentioned the gains that had been made in the fight against socialized medicine and said the work would be continued. Dealing with the specific work of the House, he said there were conflicts in the Bylaws which must be rectified and he suggested it might be well to have an interim committee on Constitution and Bylaws to keep them in order. He also asked that special committees not be appointed when there are permanent committees already authorized to handle the problem in question. He asked permission of the House to set up a Committee on Publicity, which was granted, and to appoint a reference committee on Emergency Medical Service.

Dr. Evarts Graham of St. Louis won the Distinguished Service Award on the first vote.

Dr. Ernest E. Irons, in his presidential remarks, discussed the educational campaign and said it would be continued and newspaper advertising would be started in the fall.

Dr. Louis H. Bauer, chairman of the Board of Trustees, said that the Association would, in the future, pay the state societies one per cent for collecting the AMA dues. He said the trustees were asking that the name of the Coordinating Committee on Legislation be changed to Committee on Legislation and that it be continued. He said it had done an outstanding job and had facilitated the job of the Washington office making possible the rapid dissemination of information to the profession. He also said that the American Medical Association appreciated the worth of the American Nursing Association and since the latter has approved the prepayment principle, the trustees recommend that the Council on Medical Service be directed to study the feasibility of including payments to nurses under the prepayment plan system. The blueprint of medical care prepared by the United States Public Health Service was protested; the necessity of defeating Reorganization Plan No. 27 was stressed and other medical bills were discussed.

Dr. Walter Martin spoke briefly on British Medicine; Dr. Elmer Henderson discussed the Coordinating campaign; Dr. J. R. McVay told of the four regional conferences on medical service which have been held for the purpose of setting up ways and means for increasing enrollment in Blue Cross-Blue Shield and said the work on the principles for consumer sponsored plans should be continued.

Following the supplemental reports of officers and

councils, resolutions from many sources were presented and referred to reference committees.

June 27 was devoted to work by the reference committees. Many physicians appeared before the committees to discuss the various resolutions and present their point of view. After this, the committees held their own discussions and drew up their reports for the House.

Various reports were presented June 28. All reports of the officers received commendation, especially the financial report made by the Board of Trustees which showed that the Association had reversed itself in the course of the year and taken in more money than was disbursed.

The report of the Committee on Displaced Physicians was approved by the House and since it is of interest to all physicians, the recommendations it contained are given herewith:

1. That the American Medical Association suggest to the state medical examining boards and to the Federation of State Medical Boards of the United States that they give special study to the present, unique situation with respect to displaced physicians with the idea of framing special regulation to meet it;

2. That the plan of accepting International Refugee Organization certification in lieu of other evidence of graduation and professional status when such evidence cannot be obtained be suggested to the state medical examining boards;

3. That efforts be made by the state medical boards to arrange for the appointment of displaced physicians in state hospitals, as has been done in Iowa, and in such other hospitals as may be possible, to allow such physicians to become acquainted with American medical methods and practices;

4. That state medical boards be urged to consider the framing of special regulations designed to make it possible for specially qualified displaced physicians to be licensed for limited practice in communities and hospitals where their services are needed;

5. That the American Medical Association recommend to the appropriate departments of the Federal Government that steps be taken to allow the utilization of the services of displaced physicians certified by the International Refugee Organization in federal services such as the Indian and Alaskan services under the Department of the Interior, where it is understood that there is a great need for more physicians; and

6. That a copy of this report be sent to the secretary of each state medical examining board and to the secretary of the Federation of State Medical Boards of the United States.

Rules for the formation of an organization for medical students were presented by the Board of Trustees and approved by the House. Discussion of the survey being made of physicians' incomes was

pro and con, but, in the end, the report concerning it was accepted. The legislative aspects of the Trustees' report were commended, but it was urged that expansion of the Washington Office be pushed. A bulletin for the Woman's Auxiliary which had been recommended at a previous session was considered, but the trustees learned the Auxiliary was not particularly interested in having it, and so recommended that no further action be taken. This was approved.

Again referring to the blueprint of medical care prepared by the United States Public Health Service, the reference committee strongly disapproved of this and said a critical analysis of it will appear in the Journal soon.

The report of the reference committee on hospitals and the practice of medicine (the Hess report) probably aroused more debate than any other report. The first report was made in June, 1949, but after reviewing it from a legal standpoint, the Board of Trustees referred the entire report back to the House in December, 1949, with specific recommendations concerning certain portions of it. At the December meeting, the original committee was reactivated and asked to bring in another report at the San Francisco meeting. This report was referred to the reference committee, and in substance, the following is the reference committee's recommendation:

The corporate practice of medicine is illegal in most states. Fee splitting with a corporation is just as unethical as fee splitting with another physician. Further, in addition to being guided by the laws of the various states, physicians in their relationship with hospitals must be guided by the principles of medical ethics of the American Medical Association. (The sections bearing particularly on this problem are as follows: Chapter I, Section 3; and Chapter III, Article VI, Sections 2, 3 and 6.)

To these, the reference committee recommended that the following be added: "If and when a physician is found to be guilty of unethical practice by the proper authorities and is still retained on the staff of a hospital approved by the Council on Medical Education and Hospitals, it shall be the duty of the Judicial Council to ask the Council on Medical Education and Hospitals why such a hospital should not be considered unethical."

The principles of physician-hospital relationship approved by most of the organizations concerned in 1946 were restated. They emphasize that the primary obligation of both physician and hospitals is to serve the best interest of the patient, and they recognize the fact that all questions must be considered first at the local level because of the various differences which of necessity exist in many sections of the country.

Inclusion of medical services in contracts of voluntary hospital service plans has aggravated the problem. The reference committee recommended that Blue Cross and Blue Shield Commissions be requested to cooperate to the extent of writing all new contracts in such a manner that Blue Shield will cover insurable medical services and Blue Cross will cover insurable hospital services.

The committee further stated that since the physician and hospital are interdependent, it is incumbent on both to be interested in all phases of their scientific and financial relationships. Every professional man on the appointed staff should have a voice in the professional management of the institution. The pathologist, roentgenologist, anesthesiologist and physiatrist, as well as other professional staff members, should have equal standing as active members of the staff with all the rights and privileges pertaining to other members of the staff of equal standing. The chiefs of these departments should be nominated and appointed in the same manner as are the chiefs of other major departments in the same hospital.

The reference committee recommended also that each state medical society appoint a committee on hospital and professional relations. In cases of dispute, every effort should be made to settle it at the local level; if unsuccessful, it should be referred to the state committee; with the Judicial Council the court of last resort.

Several amendments to this report were offered and there was spirited debate over it, but upon being put to a vote, the amendments failed to carry and the report was approved as presented.

The reference committee on medical education had various matters presented to it, among them a proposed revision of the essentials for approved residencies, required staff meetings, inclusion of general practitioners on hospital staffs, further training in obstetrics and gynecology and more attention to pediatrics in licensure examinations. The report containing the committee's recommendations was thoughtfully prepared and received the approval of the House.

The House voted to appoint an interim committee on Constitution and Bylaws; it authorized the Board of Trustees to determine who should pay dues and also decided to set the figure for the dues at the annual meeting rather than the interim meeting so that collection would be facilitated for the state societies. It gave Associate Fellows the right to attend the scientific assembly and voted that a subscription to the Journal of the American Medical Association should be given to each paying member of the American Medical Association.

The Reference Committee on Hygiene and Public Health recommended that exfoliative tests for cancer should be indorsed when the program is under the control of the medical profession. This was approved.

The Reference Committee on Industrial Health was asked to report back in 1951 and regularly thereafter.

The Legislative Committee was instructed to see if the expense of post-graduate study may be deducted from income tax.

The report of the Reference Committee on National Emergency Medical Service recommended that the American Medical Association urge immediate action, both Federal and state, in procuring enabling legislation for civilian defense and that the Associa-

(Continued on page 434)

President's Page

At the last meeting of our House of Delegates the Mental Hygiene Committee made certain recommendations which were accepted. The Committee's statement read as follows:

"The people of Iowa are exhibiting an awareness of the situation and are desirous of education and improvement in the fields of mental health, and it becomes more apparent that this Society should take the lead in providing the necessary assistance in such a program. To further improve the care of the mentally sick in this state, it is recommended:

- "1. That appropriations for the care of the mentally ill be increased;
- "2. That capital expenditures for a building program be increased;
- "3. That there be a revision of the commitment laws, together with the establishment of a non-judicial commitment procedure;
- "4. That acute treatment units be established at each state hospital;
- "5. That mental health clinics be established at the local level wherever psychiatric services are available for the diagnosis and screening of mental conditions;
- "6. That each member of the Iowa State Medical Society try to visit a mental hospital in his area during the year; and
- "7. That the committee on mental health be continued within the Iowa State Medical Society."

Dr. John I. Marker of Davenport has been appointed chairman of this committee, the other two members being Dr. H. C. Merillat of Des Moines and Dr. L. B. Sedlacek of Cedar Rapids. They are being asked to take an active role in carrying out the recommendations of the previous committee and to report from time to time on the progress being made. It is highly desirable that the medical profession should spearhead a drive for improvement in the medical care being given the mentally ill and I know this committee will function effectively and that it will have the cooperation of other doctors in the state.

J. F. Thornton, M. D.

President, Iowa State Medical Society

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

BRAIN AND INTELLIGENCE. A QUANTITATIVE STUDY OF FRONTAL LOBES—by *Ward C. Halstead*. The University of Chicago Press, Chicago, 1949. Price \$6.00.

ESSENTIALS OF OPHTHALMOLOGY—by *Roland I. Pritikin*, M.D., F.A.C.S., F.I.C.S., Eye Surgeon, Rockford Memorial Winnebago County and Swedish-American Hospitals, Consulting Ophthalmologist, St. Anthony Hospital, Rockford, Illinois. J. B. Lippincott Co., Philadelphia, 1950. Price \$7.50.

MANUAL OF RHEUMATIC DISEASES—by *W. Paul Holbrook*, M.D., with the assistance of *Charles A. L. Stephens, Jr.*, M.D. The Year Book Publishers, Inc., Chicago. Price \$4.25.

OFFICE TREATMENT OF THE NOSE, THROAT AND EAR—by *Abraham R. Hollender*, M.Sc., M.D., F.A.C.S., Professor of Otolaryngology, Emeritus, University of Illinois College of Medicine; Attending Otolaryngologist, St. Francis Hospital and Mt. Sinai Hospital, Miami Beach; Consulting

Otolaryngologist, Variety Children's Hospital, Miami, Florida. The Year Book Publishers, Inc., Chicago, 1950. Price \$7.50.

PRINCIPLES AND PRACTICE OF PLASTIC SURGERY—by *Arthur Joseph Barsky*, M.D., D.D.S., attending plastic surgeon, Beth Israel Hospital, New York City; Attending plastic surgeon, Morrisania City Hospital, New York City; Attending plastic surgeon, Bronx Hospital, New York; Attending plastic surgeon, Beth El Hospital, Brooklyn, New York; Attending plastic surgeon, New York State Rehabilitation Hospital, West Haverstraw, New York; Clinical professor of surgery and associate surgeon, New York Poly-clinic Medical School and Hospital; American Board of Plastic Surgery; American Society for Surgery of the Hand; American Society of Plastic and Reconstructive Surgery, American Association of Military Surgeons, Associate member of British Association of Plastic Surgeons; Associate member of Mexican Association of Plastic Surgeons. Williams and Wilkins Co., Baltimore, 1950. Price \$10.00.

BOOK REVIEWS

Sex Without Fear, by *S. A. Lwein*, M.D., and *John Gilmore*, Ph.D., (Lear Publishers, New York, \$3.00). This book has been prepared to aid physicians who are called upon to give advice to married patients or those about to be married. It has been prepared in lay language and is provided with good illustrations. The publishers have made it possible for physicians to furnish this book to interested patients by making generous discounts when multiple copies are desired for this purpose.—E. M. George, M.D.

You and Your Heart, by *H. M. Marvin*, M.D., *T. Duckett Jones*, M.D., *Irvine H. Page*, M.D., *Irving S. Wright*, M.D., and *David D. Rutstein*, M.D. (Random House, New York, \$3.00), is a concise nontechnical explanation of cardiovascular disease written by authorities in the field. It is well written and interesting. Points emphasized are: (1) importance of early diagnosis, (2) all diagnoses and treatments are to be carried out only under a physician's supervision, (3) the need for more research and (4) what is being done with public health and research money today. This book can be recommended without fear of making cardiac invalids.—J. E. Gustafson, M.D.

Infrared Radiation Therapy Sources and Their Analysis with Scanner, by *Leopold Rovner* (Charles C. Thomas, Springfield, Ill., \$1.50). This short technical booklet by the esteemed physicists Leopold Rovner and editor Otto Glasser presents a somewhat new method of mensuration of infrared radiation dosage. They describe rather thoroughly the Scanner instrument and give many curves on various infrared generators. In all ways this work is on a par with other works by these authors. It is believed to be of use in institutions and physical therapy departments where this equipment is used.—H. J. Peggs, M.D.

1949 Yearbook of Physical Medicine and Clinical Rehabilitation, edited by *Frank H. Krusen*, M.D., and *Howard A. Rusk*, M.D. (The Year Book Publishers, Inc., Chicago, \$5.00). This is a new volume consolidating the progress made in physical medicine, occupational therapy and rehabilitation, and is therefore more valuable because of the integration of these three different fields. As has been true in the past, the advances made in each subject have been carefully reviewed by an editorial board with the result that important advances in each subject are stressed. Because of the increasing use of physical medicine and rehabilitation in many phases of practice, this book is recommended to all physicians, particularly those dealing with pediatrics, geriatrics, neuropsychiatry and orthopedic surgery.—E. M. George, M.D.

An Atlas of the Blood and Bone Marrow, by *R. Philip Custer*, M.D., (W. B. Saunders Co., \$15.00). Anyone who is at all interested in hematology will covet a copy of this atlas. The work is beautifully illustrated by means of photomicrographs, instead of the traditional artist's diagrammatic representations of his concept of what blood cells ought to look like. Moreover, numerous tissue sections portray basic pathologic changes within the marrow and emphasize the importance of histologic study of the marrow, long neglected in post mortem material.

Although it probably does not belong in an atlas, one finds brief comments pertaining to therapeutics which will heighten the interest of this book to the clinician. The book is an excellent approach to a practical understanding of numerous blood diseases, an understanding which is aided by the numerous illustrations. It is hoped that in forthcoming editions the author will use standard terminology in speaking of erythrocytic cells, as he has for leukocytes.—R. F. Birge, M.D.

Proceedings of the First Clinical ACTH Conference, edited by *John R. Mote*, M. D., (The Blakiston Co., Philadelphia, \$5.50). This book is a compilation of the proceedings of the First Clinical Conference sponsored by Armour and Company, held in October, 1949, at the Hotel Stevens, Chicago. The spectacular results which have followed the use of adrenal gland products in health and disease have made this book extremely timely in the evaluation of this subject. Fifty-two sections are presented with complete reports of various investigators who have used adrenal gland products in treatment of numerous conditions. This book is well supplied with tables, charts and illustrations. It is recommended to all physicians who desire to re-evaluate adrenal cortical function.—E. M. George, M.D.

The Salt-Free Diet Cook Book, by *Emil G. Conason*, M.D., and *Ella Metz*, Dietitian, (Lear Publishers, Inc., New York, \$3.00). This book is published as a practical and helpful guide for patients requiring a low sodium diet; however, the patient should be instructed in its use by his physician or a dietitian. The recipes are simple and easy to follow, and the menus are very helpful in relieving the monotony inherent in the salt restricted diet. A section on low sodium diabetic diets and menus for persons who eat in restaurants are included. Some understanding of food composition is necessary if the user is to use the suggestions offered to the best advantage. Portions of the introduction are technical and somewhat controversial and are apt to confuse the average patient.—J. F. Phillips, M.D.

Modern Cosmeticology, by *Ralph G. Harry*, (Chemical Publishing Company, Inc.), is of value to those interested in dermatology and pharmacy. It brings together in a very understandable manner the many refinements which have occurred in the cosmetic industry and shows how they can be applied by physicians. There is considerable room in the field of medicine for the application of this knowledge and it would result in preparations which are not only more acceptable to the patients but which are also more therapeutically effective. All types of cosmetics are discussed and the book contains numerous formulas. The physiology and pathology of the hair, skin and nails is also discussed in its relation to the application of local medications.—R. J. Steves, M.D.

Sexual Deviations, A Psychodynamic Approach, by *Louis S. London*, M.D., and *Frank S. Caprio*, M.D., with a foreword by *Nolan D. C. Lewis*, M.D. (The Linacre Press, Washington, D. C., \$10.00). The authors of this book have presented a very complete study of sexual deviations and the various problems associated with these conditions. The subject is clearly separated into the various deviations with specific case histories discussed in detail. The au-

thors have made a definite attempt to discuss the historical background of sexual aberrations in general. In addition, a discussion of the therapeutic and sociological aspects has been detailed in the light of modern concepts of psychosexual pathology. Anyone interested in this subject will find this volume of value in a better understanding of the subject.—E. M. George, M.D.

Postgraduate Gastroenterology, edited by *Henry L. Bockus*, M.D., (W. B. Saunders Co., Philadelphia, \$10.00). This book has a rather highly specialized function. It is not a complete textbook in the usual sense, rather it is made up of a series of lectures which were given in a course under the sponsorship of the American College of Physicians in Philadelphia in December, 1948. The aim of the lectures and of the book is to supplement the knowledge of the internist or gastro-enterologist who is already conversant with the field.

This offers some advantages and some disadvantages. Among the former, the most prominent one is the fact that the book is more current than is usual. Furthermore, there is a greater feeling of informality than in the average similar volume. The discussions which follow the various papers are included and give the opportunity for airing of ideas which might not otherwise be presented.

Among the disadvantages are the limited appeal of the book and the lack of correlation. The average physician wanting to review gastro-enterology should read more comprehensive books before using this one. He will not find a subject covered completely nor will he find that one portion of the book leads naturally into another. The radiology discussed is of interest mainly to the gastro-enterologist who does his own fluoroscopy or to the radiologist himself. Some subjects like vagotomy, which were of greater importance at that time than now, are given a disproportionate amount of time.

In general this is a worthwhile text. Among the best features is a very good discussion on the relationship between neuropsychiatry and gastro-intestinal problems. Especially worth reading are the discussions by Drs. Wolf and Weiss. The symposium on pain, which is quite complete, is of particular value also.

I think that the volume offered here is not likely to set a pattern for future publications. It lies too much between the reference text and current journals and fulfills the function of neither. It cannot be used for complete review of the subject as can the three-volume set Bockus has written on gastro-enterology. It cannot be used to bring the reader up to date on any specific problem because it is not recent enough and does not include all of the various views available on the subject. I think many gastro-enterologists will find this of considerable value to them but it cannot be recommended as a very significant book for the average physician in general practice.—H. Margulies, M.D.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. CLAIRE H. MITCHELL, Indianola

President-Elect—MRS. HOWARD W. SMITH, Woodward

Secretary—MRS. RALPH J. SELMAN, Ottumwa

Treasurer—MRS. DWIGHT C. WIRTZ, 449-56th St., Des Moines

ANNUAL REPORTS 1949-1950

Recording Secretary:

I have attended the board meetings and have kept an accurate record of the proceedings. Copies of the minutes have been prepared for the president and the chairman of publications. The secretary's minute book will be up to date at the completion of the annual meeting.

Mrs. I. K. Sayre
St. Charles

Treasurer:

As treasurer I have attended the three board meetings, presented reports for the approval of the board. I have attended one Budget Committee meeting. Membership cards have been sent to all members-at-large whose dues have been received. The supplies were ordered from national headquarters, and membership cards, report forms and instructions were mailed to the 36 organized counties. Reminders were sent to all Auxiliaries whose reports had not been received by February 24.

All bills received carrying the approval of the president and recording secretary were paid. A card file was made of all the paid membership of the Auxiliary. The national membership report and dues were mailed. Receipts were mailed to the county treasurers for dues received. All money was deposited and books kept for both the State Auxiliary and the Nurses' Loan Fund.

The treasurer's financial report will be presented at the annual meeting.

Mrs. W. B. Chase, Jr.
Des Moines

Corresponding Secretary:

Auxiliary headquarters were consolidated under the corresponding secretary by Board approval at the post-convention meeting in April 1949. All material of the chairmen of standing committees, relative to their work, was mimeographed or typed for them at headquarters, thus consolidating information and enabling the secretary to keep an active record of all material mailed to the entire membership. This was especially valuable in the fields of public relations, legislation and program.

May 10 a letter was prepared at headquarters and mailed by the Iowa State Medical Society to the entire membership, outlining a plan of legislative action for each member individually.

July 18 county presidents and state officers re-

ceived a questionnaire requesting information relative to results of the suggested legislative action program, in addition to the following: a mimeographed list of state officers and county presidents, with addresses, an order blank listing literature available at Auxiliary headquarters, and samples of legislative pamphlets.

September 14 a resume of the reports of the chairmen of standing committees was mailed to county presidents to aid in program planning.

September 14 a packet was compiled and mailed to the state officers containing the following: a roster of Auxiliary members and members-at-large, marked on a list of all doctors' wives in the state; a map showing the location of organized counties and members-at-large; the registration list of members attending the annual meeting of April, 1949; bylaws of the Woman's Auxiliary to the Iowa State Medical Society, and handbook for state Auxiliaries published by Woman's Auxiliary to AMA.

September 1 the official call to the Board meeting of September 21 was mailed to all officers and county presidents.

October 1 requests were sent to 17 county auxiliaries for officer lists. All information received was duly reported to the state president and state treasurer.

September 22 telegrams were sent, as directed in the September Board meeting, to Senators Hickenlooper and Gillette. Answers received from same were printed in the November issue of Woman's Auxiliary News.

January 3 a plan of legislative action, giving brief analysis of the current congressional bills, was prepared at headquarters and mailed from the Iowa State Medical Society to the entire membership. This included a request to inform Auxiliary headquarters of individual efforts relative to action "ALERT."

January 6 a questionnaire for information pertaining to all Auxiliary activities was mailed to county presidents in addition to the official call to the Board meeting of January 15 and a special timely legislative bulletin.

February 15 a request for annual reports was mailed to state officers and county presidents.

March 10 reminder cards were mailed requesting annual reports be sent by March 15.

March 12 a copy of official call for annual meeting and reservation blank was prepared at Auxiliary

headquarters and mailed by the Iowa State Medical Society to entire membership.

March 30 "A Release on Legislative Activities" prepared by Dr. A. B. Phillips, secretary of the Iowa State Medical Society, from a talk recently given by Mr. Clem Whitaker, of Whitaker and Baxter, at a meeting of state chairmen in Chicago, was mailed to state officers and county presidents.

Invitations were sent to all guests and speakers participating in the program at the annual meeting. From the summary of all returned questionnaires, annual reports were compiled, typed and submitted for mimeographing. Material compiled from chairmen's report for Press and Publication chairman was prepared each month.

The following requests for material were filed:

Program—28 counties; legislative pamphlets and posters—19 county auxiliaries, 8 unorganized counties.

Approximately 168,000 pamphlets and posters were mailed from Auxiliary headquarters. Many auxiliaries received material in conjunction with county medical societies. Two hundred seventy-two copies of *The Road Ahead* by John T. Flynn were sold from Auxiliary headquarters. Additional requests were taken care of for state Bylaws and sample county bylaws.

The corresponding secretary has attended two special committee meetings and two Board meetings held in Des Moines; has conferred with the president in weekly conferences relative to the general correspondence of the Auxiliary; signed credential cards for AMA delegates; kept an accurate file of all letters received and carbon copies of letters written and a file of all mimeographed material mailed as outlined above.

Mrs. C. H. Coughlan
Fort Dodge

Councilors:

As councilor, I have tried to cooperate with the Organization chairman, Mrs. Howard Smith, ready to do whatever she might direct. Picking up personal correspondence of last year, I again approached the following counties regarding organization: Monroe, Taylor, Adams, Marion, Lucas, Jasper, Story and Clarke. I emphasized the need for members-at-large where organization could not be effected.

Recently, I again sent letters to key persons, stressing organization, membership and attendance at the annual meeting, noting its excellent training program.

In letters to Marshall, Mahaska, Union and Appanoose Counties, I suggested the possibility of their interesting neighboring counties by inviting them to their meetings.

I have received but six replies to these letters. Unless an increase in members-at-large has resulted, I cannot, at this time, report a positive gain. Whenever in the vicinity of contacts made, I have made it a practice to talk in person or by phone with the doctors' wives.

Mrs. A. G. Felter
Van Meter

As councilor of the Southwest Iowa district, I contacted each doctor's wife with three separate letters, with additional notes to some of the most interested. I feel that this is the proper approach. The responses were surprising, and within the next year or two I believe good results will result from continuous letters and contacts made.

Mrs. J. D. Hennessy, councilor
Council Bluffs

The Southeastern part of the state has been covered with letters to presidents of county auxiliaries and all members-at-large, urging their attendance at the annual meeting. Many letters were written to doctors' wives in the unorganized counties, encouraging membership and organization. Jefferson County was organized this year. The continuous progress of the Auxiliary, I feel, will thrive by further use of the councilor system of district contacts in furthering the program and organization.

Mrs. E. B. Howell, councilor
Ottumwa

At the Upper Des Moines Valley meeting held at Okoboji I was able to visit with doctors' wives who were attending the meeting. Personal contact gives one an opportunity to better explain the program of the Auxiliary. I regret it was impossible for me to do as much constructive work as I had originally planned.

Mrs. D. F. Rodawig, councilor
Spirit Lake

The first district meeting was held in Dubuque in October in conjunction with the Craft and Hobby Show sponsored by the Dubuque Auxiliary. Invitations were sent to all organized counties in the Northwest District as well as to the members-at-large. Contacts were also made in counties which have not to date been organized. I feel that each councilor should plan to hold similar meetings over the state for these meetings could be of vital aid to the Auxiliary and in furthering the work of the councilor system.

Mrs. D. J. Ward, councilor
Dubuque

President-Elect:

I attended the fall conference of the Woman's Auxiliary to the AMA in Chicago, November 1949, and the regular Board meetings of our State Auxiliary.

Mrs. C. B. Mitchell
Indianola

Directors:

Mrs. F. G. Murray, Cedar Rapids

Mrs. A. C. Starry, Sioux City

Mrs. Fred Moore, Des Moines

As a director of the Auxiliary I have attended the fall and mid-winter board meetings and have been available for conferences as needed.

Mrs. Fred Moore
Des Moines

SOCIETY PROCEEDINGS

MEETINGS

Washington

Dr. Douglas Eastwood of Iowa City spoke on "Anesthesia in General Practice" at the Washington County Medical Society meeting June 29.

Webster

The Webster County Medical Society had a dinner meeting June 29 in the Continental room of Hotel Warden. Dr. Herbert Kersten spoke on his recent trip to Europe.

Woodbury

Dr. B. M. Black of Rochester, Minn. discussed "The Diagnosis and Treatment of Thyroid Disease" at the dinner meeting of the Woodbury County Medical Society June 15.

Joint Medical Societies Meeting

Members of the Hardin, Webster, Wright and Hamilton Medical Societies held a joint dinner meeting July 12 at Hotel Willson in Webster City. The group joined with the medical unit from the State University of Iowa in connection with the annual Crippled Children's clinic being conducted. Dr. Michael Bonfiglio of Iowa City gave an address on "Congenital Malformations of the Foot," and Dr. R. R. Rembolt of Iowa City spoke on "Newer Aspects of Pediatrics."

PERSONALS

Dr. George Armitage, former Clarke county physician, has joined the staff at the Harken Hospital in Osceola.

Dr. Dan Bray, former staff member of a hospital in Bottineau, N. D., took over the practice of Dr. R. W. Lee July 1 in Algona. Dr. Bray was graduated from the State University of Iowa College of Medicine in 1943.

Dr. R. C. Brown, former surgical resident for Drs. B. Raymond Weston, E. H. Barg and F. C. Brush in Mason City, became associated with Dr. James W. Lannon July 1.

Dr. Frank R. Di Paula of Perry Point, M.D. is the new chief of physical medicine at the Knoxville Veterans Hospital. Dr. Di Paula was graduated from Loyola University in 1948 and took his internship at the Little Company of Mary Hospital in Chicago.

Dr. W. G. Dixon, who has been practicing in New Albin, has located at La Crosse clinic.

Dr. James Gault, formerly of Riverside County

Hospital, Alameda, Calif., recently became associated with Dr. John L. Hoyt in Creston. Dr. Gault was graduated from the Stanford University College of Medicine in San Francisco.

Dr. W. G. Hoganson has become associated with Dr. E. M. Smith in Eagle Grove. A graduate of the Iowa State University College of Medicine in 1949, Dr. Hoganson has been interning in Broadlawns General Hospital in Des Moines and taking special work in obstetrics.

Dr. William C. Huffmann, assistant professor of otolaryngology of the State University of Iowa College of Medicine, has received the first traveling fellowship sponsored by the college's Central Scientific fund. Dr. Huffmann is studying the latest plastic surgery techniques at Atlanta, Ga.

Dr. Robert H. Kuhl began his practice of medicine in Creston August 1. He graduated from the St. Louis University School of Medicine in 1941 and took his internship at the St. Louis City Hospital.

Dr. Carroll Larson, former attending orthopedic surgeon at Massachusetts General Hospital in Boston, assumed his new duties August 1 as professor and head of orthopedics at the Iowa State University hospitals. He succeeds Dr. Arthur Steindler who recently retired.

Dr. W. H. McGahey, formerly of Stratford, has begun practicing in Clarion. A 1946 graduate of Northwestern College of Medicine, Dr. McGahey took additional training at St. Louis Hospital in Chicago.

Dr. Robert J. McNamara has begun practicing in Sioux City. A graduate of the Creighton University Medical School, Omaha, he recently completed a three year study of urology at the Kansas City, Mo., General Hospital.

Dr. E. M. Meyers of Woodward State Hospital retired June 1. He left to make his home in Dallas, Texas.

Dr. Max E. Olsen began practicing in Minden June 15, taking over the practice of Dr. Joseph B. Sindelar. Dr. Olsen was graduated from the Creighton University of Omaha and took his internship at the Mercy Hospital in Council Bluffs. Dr. Sindelar is moving to Baltimore, Maryland where he will take a post graduate course in surgery.

Dr. H. W. Readinger, formerly of Guthrie Center, has become associated with Dr. R. J. Stolley in New

London. A 1946 graduate of the State University of Iowa School of Medicine, Dr. Readinger has taken additional training at the Methodist Hospital in Peoria, Ill.

Dr. Harold J. Peggs, formerly of Des Moines, has recently begun practicing in Creston. Dr. Peggs graduated from the University of Iowa College of Medicine in 1940.

Drs. Robert T. Tidrick, Willis M. Fowler and Wilbur L. Miller attended the meeting of deans of mid-western medical colleges at Deadwood, S. D., July 12 to 14.

Drs. Nathan A. Womack, R. H. Flocks, P. J. Leinfelder, George Perret, William C. Keetell and Lucien E. Morris presented scientific papers at the AMA convention in San Francisco June 26-30.

MARRIAGE ANNOUNCEMENTS

Dr. Mary Carolyn Beyer, daughter of Mr. and Mrs. George W. Beyer of Astoria, Ore., and Dr. William H. Ames of Iowa City, son of Mr. and Mrs. Ernest F. Ames of Cincinnati, Ohio, were married June 14 at Astoria, Ore.

DEATH NOTICES

Dr. Bert A. Bowers, 72, Sioux City physician for 35 years died June 29 following a brief illness. Born in Vinton, Dr. Bowers was graduated from the State University of Iowa College of Medicine in 1905. He practiced eight years at Granville and was affiliated with the Physicians and Surgeons Hospital in New York City before coming to Sioux City. He was a member of the Woodbury County and Iowa State Medical Societies.

Dr. James Joseph Murphy, 73, a practicing physician in Cedar Rapids since 1903, died June 20 at the Mercy Hospital in Cedar Rapids. He was graduated from the Keokuk Medical College in 1898 and took post graduate work at New York University. He was a member of the Linn County and Iowa State Medical Societies.

Dr. William R. Van Duzer, 65, Casey physician for 30 years, died June 20 in an Atlantic hospital following a heart attack. Dr. Van Duzer attended the Iowa College of Physicians and Surgeons in Des Moines and was graduated from the Jefferson Medical College of Philadelphia, Pa., in 1912. He was a member of the Dallas-Guthrie Medical Society and a past president of the Iowa State Medical Association.

BLUE SHIELD ANESTHESIA CLAIMS

Doctors who administer anesthetics to Blue Shield patients should submit a doctor's service report to the plan requesting payment for this service. Blue Shield allows \$10.00 for the service.

BIRTH REPORT

(Continued from page 421)

<i>Place of Birth</i>	
Hospital deliveries	59,231
Nursing home	1,064
Home	2,602

Total	62,897
<i>Blood Test</i>	
Taken	61,200
Not taken	1,075
Not stated	614
Refused	8

Total	62,897
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<i>Total Number of Children</i>	N.S.	Mature	Immature†	Total
N.S.	4	146	13	163
1	28	19,144	1,379	20,551
2	47	18,298	1,156	19,501
3	37	10,103	674	10,814
4	18	5,074	338	5,430
5	7	2,582	193	2,782
6	5	1,360	101	1,466
7	5	822	50	877
8	2	448	35	485
9		323	20	343
10		187	8	195
11	1	109	8	118
12		71	1	72
13		47		47
14		21	2	23
15		8	1	9
16		10		10
17		3	1	4
18		3		3
19		2		2
20		1		1
29		1		1
Total	154	58,763	3,980	62,897

*Nearest pound.

†Total column includes 1 sex not stated - weight not stated and 1 sex undetermined - weight 7 lbs.

‡An immature infant is defined as an infant with a birth weight of 5½ pounds or less regardless of the period of gestation. If birth weight is not stated a gestation period of less than 37 weeks or the specification "premature" is assumed to indicate immaturity.

<i>Types of Delivery</i>	
Spontaneous without complications	47,073
Spontaneous with complications	949
Manipulation without instruments	670
Forceps low and unspecified	10,830
Forceps mid and high	1,057
Cesarean section	2,246
Other surgical or instrumental	20
Unspecified type of operation	52
Total spontaneous (with or without complications)	48,022
Total operative (not including episiotomy)§	14,875

Total	62,897
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§Episiotomy not classed as an operative delivery.

<i>Complications of Delivery</i>	
Operative delivery, no other complication stated	12,622
Placenta praevia or antepartum hemorrhage	454
Retained placenta, with or without hemorrhage	79
Other post-partum hemorrhage	78
Abnormality of bony pelvis	277
Disproportion or malposition of fetus	1,540
Prolonged labor of other origin	448
Laceration of perineum	22
Other trauma	86
Other complications	218

Total	15,824
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TENTH DISTRICT BLUE CROSS-BLUE SHIELD MEETING

A meeting of board members and executive directors of Blue Cross-Blue Shield plans in the Tenth District will be held August 5 to 6 at the Grand View Lodge, Gull Lake, Brainerd, Minn. Dr. Charles T. Maxwell, Blue Shield board member, and Mr. Woodrow H. Sherin, executive director, have arranged to represent Iowa's Blue Shield plan. The plans that comprise the Tenth District represent Wisconsin, Nebraska, Iowa, Minnesota, North and South Dakota and Winnipeg, Manitoba Province, Canada.

AMA MEETING

(Continued from page 426)

tion pledge its help to the government in any way possible to assist in the utilization of medical manpower in the armed forces. This was approved.

The House asked also that the Board of Trustees study the wisdom of appointing and financing a Council on Federal Medical Service to advise on the problem of medical care for both governmental and non-governmental agencies, this Council to advise the House of Delegates of any change in policy.

The Reference Committee on Insurance and Medical Service recommended that a study be made of the feasibility of including nurses in prepayment plans and that ratings of health insurance plans should be done on a local rather than national level. Medical care for veterans was discussed, but no change made.

Many other reports on minor items were given and approved.

June 29 the House met for its final session. Dr. John W. Cline of San Francisco was elected president-elect; Dr. R. B. Robins of Arkansas, vice-president; Dr. George F. Lull, secretary; Dr. Josiah J. Moore, treasurer; Dr. F. F. Borzell, speaker, and Dr. J. R. Reuling, vice-speaker of the House. Dr. L. W. Larson of North Dakota and Dr. T. P. Murdock of Connecticut were elected trustees; Dr. L. A. Buie of Minnesota and Dr. J. B. Lukins of Kentucky to the Judicial Council; Dr. H. R. Viets of Boston to the Council on Scientific Assembly; Dr. R. L. Haden of Virginia to the Council on Medical Education and Hospitals; and Dr. J. R. McVay of Missouri and Dr. J. D. Hamer of Arizona to the Council on Medical Service. Atlantic City was chosen as the site of the 1953 meeting. The interim session in 1950 will be held in Cleveland, December 5 to 8, rather than in Denver as originally scheduled.

The House voted its thanks to California for an outstanding convention and hospitality, and the meeting adjourned sine die.

NAVY WAR PHOTOGRAPH ALBUMS
AVAILABLE

An album of U. S. Navy war photographs is available, free of charge, to members of the Iowa State Medical Society for use in their waiting rooms on request from the U. S. Navy Recruiting Station in Des Moines.

The album consists of 100 selected pictures taken from Pearl Harbor to Tokyo Harbor during World War II. They are combat pictures and most of them made headlines in the newspapers during the war.

Requests should be addressed to the U. S. Navy Recruiting Station, Fifth and Court Ave., Des Moines, Iowa.

ANNUAL FALL CLINICAL CONFERENCE

The twenty-eighth Annual Fall Clinical Conference of the Kansas City Southwest Clinical Society will be held in Kansas City, Mo., October 2, 3, 4 and 5 with the usual list of distinguished guest speakers.

MEDICAL-PRESS-RADIO CONFERENCE

The Committee on Medical Service and Public Relations of the Iowa State Medical Society is arranging its second annual Medical-Radio-Press Conference, to be held in Des Moines at Hotel Fort Des Moines, Sept. 8, 1950. It will be an all day meeting, and representatives of the newspapers and radio stations in all sections of the state will be invited to attend. Each county society will select a physician from its membership to attend this meeting.

The program for the conference will be:

- 9:30 a.m. Registration
- 10:00 a.m. Address of Welcome—Dr. Thomas F. Thornton, President, Iowa State Medical Society
Moderator — Dr. Donald C. Conzett, President-elect, Iowa State Medical Society
- 10:15 a.m. Atomic Energy As It Relates To Medicine—Col. Elbert DeCoursey, Commandant, Army Medical Department of Research Graduate School, Walter Reed General Hospital, Washington, D. C. (The Korean situation may make it necessary to substitute.)
- 11:00 a.m. Emergency Medical Service—Report of the Chairman of the Committee on Emergency Medical Service—Dr. John W. Ferguson, Newton, Iowa
- 11:15 a.m. Layman from Washington, Iowa, who will report on atomic warfare as he observed it in Japan

Luncheon

Afternoon Session

- 1:30 p.m. Grievance Committee—Iowa State Medical Society — Ernest M. Kersten, Chairman
- 1:45 p.m. Placement of Physicians in Rural Areas —Dr. Allan B. Phillips, Secretary, Iowa State Medical Society
- 2:00 p.m. Advances in Medical Science—Speaker from the University of Iowa
- 2:15 p.m. Expansion of Voluntary Health Insurance—Mr. Thomas Hendricks, Secretary of Council on Medical Service, American Medical Association
Code of Cooperation:
- 3:00 p.m. Iowa Radio News Editors Association—Mr. Jack Shelley or Mr. Gene Godt
- 3:15 p.m. Iowa Press Association — Iowa Daily Press Association
- 3:30 p.m. Iowa State Medical Society—Dr. Fred Sternagel, Chairman, Committee on Medical Service and Public Relations
- 3:45 p.m. WOI-TV—Iowa State College, Ames, Iowa
- 4:00 p.m. Discussion periods—have not been decided

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THE GALLBLADDER AND COMMON DUCT PROBLEM AS SEEN BY THE GENERAL PRACTITIONER AND GENERAL SURGEON

Robert L. Sanders, M.D., Memphis, Tennessee

Since most of the surgical conditions which come to the attention of the general practitioner are within the field of the general surgeon, these two are bound together in a peculiarly close relationship. With the exception of the operation itself, they must frequently combine their efforts in the care of the patient from his first observation to his ultimate dismissal. Especially is it often necessary that they cooperate in the diagnosis. Although the surgeon usually depends upon the general practitioner for the recognition of a surgical lesion, cases are at times encountered wherein the proper interpretation of all the factors which enter into the choice between medical and surgical treatment must be carefully weighed between them. One type of case wherein such a situation is most likely to arise is that of cholecystitis. Not only is this disease prone to mimic a variety of other disorders, but the surgical considerations differ in all of its various phases. It is with these thoughts in mind that the present discussion is offered.

Chronic Cholecystitis

Patients with gallbladder disease may be classified into three types: First, those who have colic, but good digestion between the attacks. Most of these patients will be found in the younger age group. Second, those who have both colic and dyspepsia. Third, those who have chronic indigestion without colic. In our experience, approximately 75 per cent complain of gaseous distention after meals. An equally large number have qualitative food dyspepsia. More than 50 per cent give a history of colic at one time or another, and approximately 20 per cent have noticed some degree of jaundice with the attacks.

The physical examination usually yields, at best,

only suggestive evidence of the disease. Deep tenderness in the right upper quadrant may be the only positive finding. As a rule, the gallbladder is impalpable, especially in obese patients. Even though a mass is palpated, one should bear in mind that it may represent an enlarged liver, a distorted and thickened omentum, a tumor of the colon or pancreas, or some other pathologic condition. The diagnosis, therefore, must rest largely upon the history and roentgenogram. If nothing definite is shown in the films, duodenal drainage may afford some information as to the nature of the process.

Concerning the criteria for operation, there is a wide difference of opinion in even the chronic forms of cholecystitis. The vast majority of patients with the noncalculous form may be treated successfully by medical measures. Many of this group complain chiefly of chronic indigestion. Others may have attacks of colicky pain, though usually not like typical gallstone colic. Still others may have more or less severe and chronic aching pain in the epigastrium. In any event, one may feel justified in removing the gallbladder only if the symptoms are clear-cut, severe and persistent and the organ is found to be nonfunctioning. Without these criteria, the results of surgical treatment are likely to be disappointing. Jaundice or a history of jaundice, an abnormal concentration of bile as demonstrated by duodenal drainage or symptoms referable to the pancreas or liver add to the indications for operation. Mere delay in emptying of the gallbladder is not adequate reason for surgical interference. The delay may be due to a disturbance of the sphincter mechanism, which in turn may be caused by a neurogenic disorder, some abnormal constitutional state, or an organic lesion outside the gallbladder.

In calculous cholecystitis, both the diagnostic and therapeutic considerations are, on the whole, more simple. In the typical case, pain, at times sudden in onset, but more often beginning gradually and increasing in severity and perhaps radiating to the back, is the chief complaint. Vomiting or belching of large quantities of gas fre-

quently affords temporary relief. Jaundice may also be associated and, if so, suggests occlusion of the common duct by a stone or stones, or by inflammatory edema secondary to cholangitis. In the majority of cases, the stones in the gallbladder will be visualized in the roentgenograms.

The real problem in either the noncalculous or the calculous type of cholecystitis is encountered in those cases wherein the symptoms are indefinite and the pathologic process is not clearly demonstrable by roentgen study. Here, one must consider the possibility that some other lesion is partially or wholly responsible for the patient's complaint. This is particularly true of appendicitis and duodenal ulcer. Right iliac pain, typical of a diseased appendix, is not uncommon in cholecystitis, and pain or discomfort in the right upper quadrant after eating, similar to that of duodenal ulcer, is frequently described. If, as often happens, either appendicitis or an ulcer is associated, one may find it impossible to evaluate correctly the mixed history and clinical findings. This is also true of a coexistent gastrointestinal irritability, pancreatitis or hepatitis. The pain of a diaphragmatic hernia may likewise be easily mistaken for that of cholecystitis or cholelithiasis, although the roentgenogram will usually reveal the presence or absence of a hernia. Further, considerable difficulty may be experienced in distinguishing between cholecystitis and heart disease. A helpful point is the fact that the pain of cholecystitis is not related to effort, as is generally true of angina pectoris. The electrocardiographic tracings are useful, but not conclusive. Frequently, moreover, the picture is clouded by some type of coincident cardiac lesion.

It is our opinion that the presence of gallstones is itself ample indication for cholecystectomy. This is true even though the patient has little symptomatic evidence of cholecystitis and the function of the gallbladder is essentially normal. It is extremely doubtful that gallstones ever exist without manifesting themselves in some manner. If the history is carefully taken, one will usually obtain a clue to their presence. We have observed that, following removal of the gallbladder containing the so-called "silent" stones, patients find themselves materially improved and, upon reviewing their former status, recall having had at least a few symptoms which could be traced to this source.

In an occasional case, a serious heart ailment or other advanced intercurrent disease may prove a contraindication to cholecystectomy unless the gallbladder symptoms are severe. We have, however, been inclined to remove the gallbladder even in the presence of a rather disabling heart trouble.

It has been our experience that the cardiac symptoms of many of these patients are improved following operation; indeed, the symptoms of a supposedly diseased heart may subside completely.

As a precaution against complications incident to cholelithiasis, the earlier the gallbladder is removed, the better. The local and systemic effects of these complications not only impair the patient's resistance, but add to the difficulty of the operation, increase the mortality, prolong convalescence and even permanently affect the patient's general health. Probably the most common complications are those of duct obstruction, i.e., cholangitis, hydrohepatosis with more or less liver damage and pancreatitis. We have observed varying degrees of these conditions in a high percentage of our cases. If the gallbladder is removed and the obstruction is released early, the disease process in the ducts, liver and pancreas may be expected to subside. Otherwise, the damage may become so extensive as to preclude spontaneous repair following cholecystectomy.

Another possibility of delayed operation, especially in the presence of stones, is that of perforation. We have found a perforation in eight per cent of our gallbladder operations, of which 88 per cent were associated with stones. A mortality of 13 per cent in the perforated cases in contrast to a mortality of two per cent in those without perforation speaks eloquently of the significance of this complication.

It is well, also, to consider the possibility of carcinoma of the gallbladder as a consequence of stones. The incidence of this disease varies in the experience of different observers. In any case, removal of the gallbladder containing stones is an excellent prophylactic measure against malignant changes in the organ.

Acute Cholecystitis

One of the most convincing arguments in favor of early operation in the presence of gallstones lies in the danger of an acute attack. Approximately 16 per cent of our gallbladder operations have been performed for acute cholecystitis and of these stones were present in 84 per cent. It is of interest, also, that perforations have been found in 20 per cent of patients operated upon for acute cholecystitis, 90 per cent of the perforations having been associated with gallstones. From these and similar experiences reported by other surgeons, it is obvious that, in the majority of cases, the acute attacks are induced by stones, usually in the cystic duct. In the remainder, they are provoked by angulation of the cystic duct or obstruction incident to edema from infection or a chemical reaction.

As to the management of acute cholecystitis, in the first place, the patient should be sent to the hospital at the earliest possible moment. Here, the alertness of the general practitioner may be life saving. In the second place, any necessary supportive measures should be instituted at once. Otherwise, the management must rest upon the findings. The acute condition is manifested by abdominal pain and rigidity, a tender mass, and an elevation of temperature. During the early hours of the attack, a mass may not be palpable, rigidity and tenderness may not be pronounced, and the temperature and leukocyte count may be essentially normal. In this event, operation may be delayed for 12 to 48 hours, while the patient is kept under observation. Or, if the patient is in poor condition, operation may be delayed as long as 72 hours unless meanwhile the attack appears to increase in severity. Fortunately, in most cases, the attack will subside under appropriate treatment, permitting operation at a more advantageous time. If, during this period, the symptoms are not relieved or if they become aggravated, operation is urgently demanded. The clinical signs which we regard as indications for surgery are (1) sustained pain, (2) a tender mass in the right upper quadrant, (3) abdominal rigidity and (4) gradual elevation of temperature and leukocyte count.

Extrahepatic Ducts

In view of the high incidence of duct stones in gallbladder disease, any consideration of the gallbladder problem must properly deal also with questions of clearance of the ducts and restoration of the bile flow into the intestinal tract. Duct stones have been associated in 22 per cent of our cases of cholecystitis.

Advanced obstruction of the duct is characterized by severe attacks of gallbladder colic followed by jaundice, chills and fever. Physical examination reveals abdominal tenderness and rigidity, but seldom a palpable mass. Here, also, a palpable mass usually indicates an enlarged liver. The diagnosis is generally made by the history alone, as roentgenograms rarely demonstrate duct stones. Not all patients with duct stones present this picture, however; jaundice is associated in only about 50 per cent of the cases, and chills and fever in an even smaller number. In fact, complete obstruction of the duct is the exception rather than the rule. Thus, the surgeon is at times in doubt as to whether or not a choledochotomy is indicated. When in doubt, we usually explore the ducts, although as a rule we do so only when the indications are definite. As a consequence, stones have been recovered in 75

per cent of our choledochotomies. The findings which we have regarded as criteria for opening the common duct are as follows:

1. A palpable stone in the duct.
2. Jaundice or a history of jaundice.
3. Abnormal dilatation of the duct.
4. A contracted gallbladder containing stones.
5. Multiple small stones in the gallbladder with an enlarged, patent cystic duct.
6. Flocculent bile in the duct, as shown by aspiration.
7. Gallstones associated with chills and fever.

The palpation of a stone may at times be difficult, especially if the duct is excessively dilated. Moreover, one should take care not to mistake an enlarged gland for a stone in the duct.

In all operations for cholecystitis, it is our custom to examine the ducts visually as well as by palpation, unless the process is too acute and edema too extensive. Thus far, we have found the common or hepatic duct, or both, dilated in almost 90 per cent of the operations. Clearly, an abnormal enlargement of the common duct is not alone sufficient reason for choledochotomy. The enlargement may be compensatory, the duct having taken over the function of the gallbladder following occlusion of the cystic duct by a stone or by kinking. In other cases, the dilatation may be due to obstruction from an extrinsic source, particularly pancreatitis, and in still others to a gallbladder infection. Occasionally, we have opened a dilated duct because of jaundice, only to find no explanation for the obstruction other than a possible spasm of the sphincter of Oddi. If arising from any of these conditions, the excessive enlargement is amenable to relief by cholecystectomy alone.

When one encounters a gallbladder no larger than the thumb, one may be sure of a long standing disease. Even though the organ does not contain stones, they will probably be found in the ducts. Again, in the presence of multiple stones in the gallbladder and an enlarged, patent cystic duct, it is more than likely that small stones will have passed into the common duct. Cloudy, flocculent bile, as determined by aspiration, likewise suggests occlusion of the distal end of the duct by a stone, although it may be produced by a low grade inflammation of the walls.

In the presence of stones in the gallbladder or ducts, certain precautions should be observed at the time of operation in order to preclude the necessity for a subsequent choledochotomy. First, the cholecystectomy should be performed before the ducts are explored; otherwise, stones may be extruded into the common duct during manipulation of the gallbladder. Second, every possible

means should be employed to clear the ducts at exploration. The hepatic as well as the common duct should be thoroughly searched, and the ampulla explored with scoops for any possible stones hidden in its recesses. The patency of the distal end of the common duct should be proved by means of a probe; if an obstruction is found, the sphincter should be gradually dilated with special dilators, although not to a diameter larger than that of the duct. Thereafter, a T-tube is inserted into the duct and brought out through a stab wound to the outer side of the incision.

Occasionally, one finds an abnormally enlarged duct containing multiple stones, sand and muddy material, its distal end small and almost completely strictured. Thus, it is difficult to dilate the outlet sufficiently to insure continuous and ample drainage. Following attempted dilatation, moreover, the area tends to contract again and bring about another impediment to the outflow of bile. This leads to a reaccumulation of stones and sandy material, the original clinical picture is reproduced, and a second operation becomes necessary. In such cases we have found choledochoduodenostomy an effective method of relieving the obstruction. By this procedure all the bile is made available in that part of the intestine where it normally empties and intestinal function is soon restored. The dilated duct lends itself well to the creation of a lateral anastomosis sufficiently wide to insure continued and adequate drainage. In addition to these features, the operation has the advantage of preventing too rapid decompression of the ducts, as well as subsequent cholangitis from ascending infection.

Summary

Approximately 85 per cent of patients who undergo cholecystectomy are relieved of the symptoms for which the operation was performed. Approximately 10 per cent are only partially relieved, and five per cent are not benefited at all. These failures are due largely to operation without sufficient evidence of disease or to errors in diagnosis. Their numbers might be reduced if more attention were given to the history and more care were taken to rule out extrinsic disease in the diagnosis.

In chronic noncalculous cholecystitis, especially, the selection of patients for operation often calls for a fine discrimination on the part of both the general practitioner and the surgeon. In these cases, complete loss of gallbladder function or evidence of damage to the liver and pancreas secondary to disease of the gallbladder are definite indications for surgical interference.

The vast majority of patients who are completely relieved by cholecystectomy are those with

gallstones. Moreover, early operation in this group has the greatest influence upon the outcome. Most of the surgical fatalities would be avoided if patients with stones were given the benefit of operation before acute cholecystitis, perforation and obstruction of the ducts complicated the picture.

In operations upon the ducts, the use of every means to remove all stones and sandy material and insure adequate drainage of bile are of first importance. If, because of obstruction at the distal end of the common duct by stricture or some other condition, adequate drainage cannot be maintained, this may be effectually accomplished by the use of choledochoduodenostomy.

THE PRESENT-DAY ANESTHESIOLOGIST

Stevens J. Martin, M.D., Ph.D.,*
Hartford, Conn.

Progress is essentially a function of time and effort, becoming significant only upon periodic evaluation. It is appropriate, therefore, that the Iowa State Medical Society take this occasion, their Centennial assemblage, to determine the measure of their contribution, as well as that of others, in making America the undisputed leader in world medicine. Important advances, to be sure, have been made in all branches of medicine by our investigators, specialists and general practitioners. Like some other specialties, anesthesia in its alleviation of pain dates back to time immemorial and represents today the product of an empiric art subjected to the laboratory and clinical scrutiny of medical sciences. Its development, during the past few decades, has been particularly significant and will be described briefly with emphasis being given to the factors which characterize our present-day anesthetist.

Anesthesiology today is an established specialty in medicine, having been accepted by the A.M.A.,¹ the military forces,² leading medical schools³ and hospitals throughout the country.⁴ As such, its practice therefore constitutes the practice of medicine, no less important than any other branch of medicine. Because of the number of preventable complications and deaths due to anesthetic procedures per se, it is unpardonable for any physician, surgeon, internist or general practitioner to fail to see that his patient receives only the safest and optimum anesthetic management.

Modern anesthesia was initiated by the post

Presented at the Centennial Session, Iowa State Medical Society, Burlington, Iowa, April 23-26, 1950.

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World War I researches of physiologists and pharmacologists, their clinical application by pioneer anesthetists, among whom was Dr. Ralph M. Waters, then of Sioux City, and by the growing appreciation of surgeons, aided in the success of their new surgical technics. The introduction of new agents for preoperative medication and for anesthesia, the refinement of old technics and the development of new ones, the inauguration of research and teaching centers, such as we have under Dr. Stuart Cullen at the University of Iowa College of Medicine, and the appreciation of related activities of the anesthetist in resuscitation procedures, fluid and inhalation therapy, are a few of the major developments of the past few decades. Applying the principles of basic medical sciences, anesthesiology may now be regarded as that science and art concerned with the use of drugs and technics which produce a depression of the peripheral nervous system (regional anesthesia) or a depression of the central nervous system (general anesthesia) with analgesia, unconsciousness, controlled graded muscular relaxation with minimal interference of the circulatory, respiratory and other systems of the body. Anesthesia can be conveniently classified as follows:

Table I
ANESTHESIA

General	Regional
Inhalation	Topical Application
Intravenous	Local Infiltration
Rectal	Field Block
Oral	Nerve Block
Subcutaneous	Sub-arachnoid (spinal)
Intramuscular	Epidural
Intraperitoneal	Sympathetic ganglion block
Bone-marrow	Paravertebral (somatic) block
	Localized refrigeration

As noted in Table I, each of the two major types of anesthesia are characterized by a number of technics or routes of administration of the anesthetic agents. While all those listed under regional anesthesia are employed clinically, only the inhalation, intravenous and rectal methods of general anesthesia are employed today. The others are more commonly used for laboratory animals.

No attempt will be made to describe or enumerate the many contributions that have established the use of general and regional anesthesia. Suffice it to say that most of them experienced waves of enthusiasm and/or periods of condemnation until careful laboratory and clinical confirmatory studies justified their acceptance. Of outstanding significance, the following may be cited. Inhalation anesthesia was made safer, more efficient and controllable and of greater usefulness by the laboratory studies of Jackson and clinical introduction by Waters of the closed-system, carbon-dioxide absorption technic.⁵ The subsequent clinical refinement of various oro and nasopharyngeal air-

ways, endotracheal and endobronchial tubes with and without an inflatable cuff,⁶ various types of laryngoscopes, to-and-fro and circle-filter apparatus for administering anesthesia, added immeasurably toward modern inhalation anesthesia for surgery of the thorax as well as other parts of the body. Further, the popularity of inhalation anesthesia was greatly enhanced by the clinical introduction of ethylene by Luckhardt and Carter,⁷ of vinethene by Leake and Chen,⁸ of cyclopropane by Waters, et al.,⁹ and of trichlorethylene by Jackson, et al.¹⁰ All agents have their advantages and disadvantages, limitations and contraindications. Thus, none is classified as ideal. Each has its proponents and its place in the individualized selection of anesthesia for patients.

Intravenous anesthesia was revived, its technic refined and established by the availability of ultra-short acting barbiturates,¹¹ particularly sodium pentothal, and by its clinical evaluation by Lundy, et al.^{12, 13} The ease, simplicity and rapidity of induction, control of depth of anesthesia by varying concentrations and intermittent injections, and the recovery from anesthesia with only occasional nausea, vomiting and excitement, have made sodium pentothal intravenous anesthesia a highly desirable technic.¹⁴ Despite other advantageous features and its popular use by the armed forces in World War II, it is not an ideal agent or technic for all patients. Like others, it also has its complications, limitations and contraindications. The recent use of two other agents warrants some consideration. The intravenous injection of procaine, accidental or otherwise, was once considered dangerous, fatal and therefore condemned. Today, such administration has its enthusiasts among some surgeons, orthopedists, internists and anesthesiologists.^{15, 16, 17} It is reported to be of value in controlling serum sickness, cardiac arrhythmias of reflex origin, pruritus, carbon monoxide poisoning and pain of various causes, (postoperative, metastatic carcinoma, rheumatoid, osteo and traumatic arthritis and sprains).^{18, 19, 20} It is yet much too early to confirm and accept all of the reported diagnostic and therapeutic indications for intravenous procaine. On the contrary, however, the accepted clinical usefulness of another drug, curare, introduced a decade ago for intravenous administration, cannot be denied.²¹ This once dreaded arrow-poison is now available in crystallized form, standardized and of uniform potency. The ability to provide, within a few minutes, adequate muscular relaxation for the surgeon without augmenting the depression of the central nervous system of the patient during general or supplemented regional anesthesia, is not only desirable but often a dire

necessity, particularly for the poor-risk patient. Both the surgeons and anesthesiologists are indebted to Griffin²² and to Cullen²³ for the clinical introduction and evaluation of curare.

Rectal anesthesia enjoyed its greatest popularity about two decades ago. The ether technic of Gwathmey²⁴ and the avertin fluid procedure of Wood²⁵ were once commonly employed. In the past decade, the shorter-acting barbiturates have replaced the use of both agents. Rectal anesthesia, while presenting some advantages, however, has proven undesirable because of the time-consuming preparations, uncertainty and uncontrollability of dose and response and the effects of local irritation.

The advances made in regional anesthesia in the recent past have been as significant as those for general anesthesia. In addition to procaine and cocaine, newer agents are now available, such as larocaine for topical anesthesia and monocaine, intracaine, metycaine, pontocaine and nupercaine for block or spinal anesthesia.^{26, 27} Each preparation presents certain advantages and disadvantages in anesthetic management, the duration of effect commonly paralleling an increase in toxicity. Procaine, however, being the least toxic of all, is still the most widely employed agent. Modern regional anesthesia may be said to have been initiated by the publication of an extensive monograph of technics by Gaston Labat in 1924.²⁸ More recent contributions by Lundy, Tovell, Rovensine, Tuohy, Adriani and others have been reported. Perhaps the most popular technics at present are the continuous caudal anesthesia of Hingson,²⁹ continuous spinal anesthesia of Tuohy³⁰ and saddle anesthesia of Adriani.³¹ Other procedures have been described but are used only for specific indications or by a few enthusiasts, such as localized refrigeration,³² stellate ganglion block,³³ epidural technics,³⁴ and continuous brachial plexus anesthesia.³⁵ Like general anesthesia, all regional procedures present definite advantages, disadvantages, limitations and contra-indications.

Progress in anesthesia in the past decades has not been confined to the basic medical sciences and to the clinical application of newer principles, agents and technics. A profound advance has been made in the establishment of an educational program of the American Society of Anesthesiologists, Inc., and the American Board of Anesthesiology. In large measure, this has been made necessary by the increasing demands of physicians wishing to enter the specialty as well as by the many surgeons and hospitals requesting the services of a physician anesthetist. In the past decade, the number of approved residencies or fel-

lowships in anesthesia in this country spiraled from 58 to 213.³⁶ There are also at least 12 postgraduate courses in anesthesia from one day to six months in duration available each year to anesthesiologists and other physicians.³⁷ In addition, the American Society of Anesthesiologists has inaugurated another program of instruction specifically designed to meet the needs of the general practitioner doing part-time anesthesia in rural areas or in smaller communities. A survey conducted by the American Society of Anesthesiologists early last year revealed that more general practitioners administer anesthesia by choice or necessity than previously surmised. Further, many desired instruction in anesthesia to improve their anesthetic management or to get started in the practice of anesthesia. Accordingly, a plan was formulated on a national scale to provide such instruction. It is presently being carried out by 110 competent anesthesiologists whose teaching and clinical facilities have been made available and who, in the latter half of 1949, taught 1,247 general practitioners in various aspects of anesthesia. Details of this plan have been described elsewhere.³⁸ The American Academy of General Practice has endorsed this teaching program and aided considerably in our efforts to help the general practitioner provide modern anesthetic management for his patient.

The academic and clinical advances in anesthesia thus briefly described may serve to characterize the present-day anesthesiologist. To begin with, he has become indispensable in modern medical practice. No surgical or maternity pavilion interested in providing optimum care to its patients can afford to be without at least one trained physician anesthetist. His many duties, whether he practices alone or with a group, are varied, exacting, often life-saving and are carried out on a 24-hour basis. He is invaluable in aiding the surgeon, comforting the patient and in enhancing the prestige of the hospital or protecting it in medicolegal actions. A decrease in surgical and obstetrical morbidity and mortality due to modern anesthesia is an established fact. While the qualified anesthesiologist may limit some of his duties due to local hospital arrangements, his full scope of activity may be briefly described as follows:

Scope of Activity of Anesthesiologist

1. To provide modern, safe and efficient anesthetic management which includes preoperative evaluation and medication of patient, consultation with the surgeon and patient for the selection of the optimum anesthetic agent and technic, administration of the anesthesia during the course of

The modern anesthesiologist need not confine his activity solely to the surgical or maternity pavilions. His appreciation of the fundamental principles of physiology, pharmacology and other basic medical sciences and his ability to apply them clinically have made his services of value to the internist, general practitioner and other physicians. As illustrated in Table 2, aside from providing modern anesthetic management to his surgeon and obstetrician, he may be of help to the internist in solving diagnostic or therapeutic problems. Thus, the diagnosis of neurogenic or psychogenic hypertension may be strongly postulated by a fall in blood pressure after intravenous sodium pentothal or spinal anesthesia. Or a diagnosis of a vasospastic element in peripheral vascular dysfunction may be ascertained by a sympathetic ganglion block. The anesthetist can aid the internist in the therapy of many conditions,

A more recent obligation of the modern anesthetist and certainly not his last, is his direct relationship to the public. Aside from his professional duties per se, he will zealously protect the confidence and respect given him by his patients and his fellow physicians and will avoid or expose acts of disrespect, exploitation and corruption. He will not exploit his patient, surgeon or hospital, nor will he tolerate being exploited. Like other physicians, he will keep abreast of progress in anesthesia, be ever ready to inform the public of newer developments and will continue to provide modern anesthetic management for his surgical and obstetrical patients, be they private or indigent. The present-day anesthesiologist, thus, may be regarded as another physician whose practice of medicine contributes to the optimum care of our public.

The progress of anesthesia during the past few decades has been briefly outlined with emphasis being given to the status of our present-day anesthesiologist. The acceptance of anesthesiology as a specialty in medicine is now fully appreciated. Its practice constitutes the practice of medicine. The scope of activity of the modern anesthetist has been considerably enlarged by many significant laboratory and clinical advances. Aside from his obligations to his surgeon and ob-

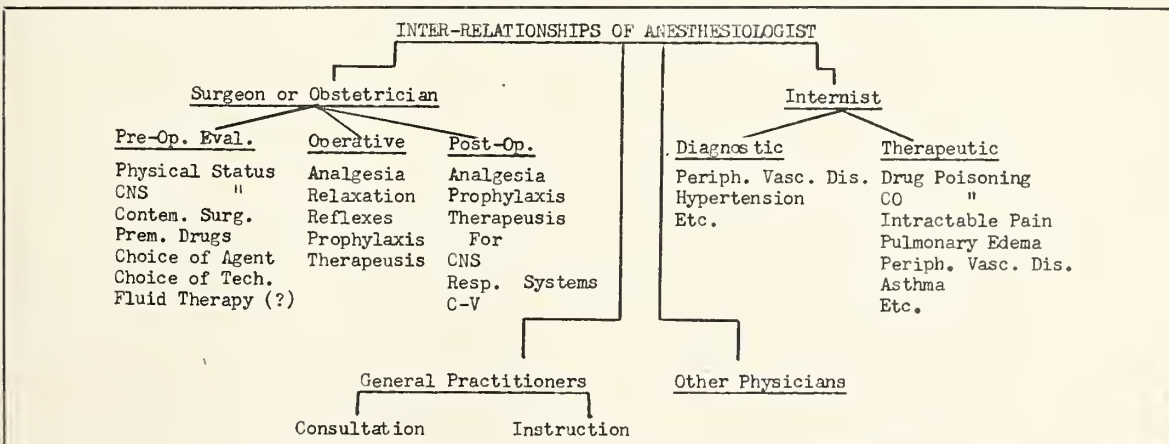


Table 2.

stetrician in providing modern anesthetic management, he can be of service to internists, general practitioners and other physicians. His efforts have contributed significantly to the optimum care of patients and thus he has become indispensable in modern medical practice.

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PSYCHOTHERAPY IN GENERAL PRACTICE

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Before discussing psychotherapy in general practice, it is pertinent first to orient ourselves toward the field of psychiatry and indicate that it has become integrated into the field of medicine. This integration has important implications for the physician in general practice. Originally psychiatry was that branch of medicine which dealt with various groups of patients characterized primarily by severe disturbances in behavior. Those patients, as well as those interested in their care, were, in the main, rejected by medicine. The earliest group of psychiatric patients was the psychotic who, in the early eighteenth century, was slowly rescued from Satan and witchcraft. A constant sign of their isolation and those who worked with them is the mute testimony of the elaborate structures built for their custody, the asylums, later called the state hospitals. Certain groups of these patients, particularly those with organic psychoses as general paresis, senility, cerebral arteriosclerosis or epilepsy gradually gained respectability while the other psychotic patients remain more or less isolated to this day.

The second group of patients, called psychoneurotic, whose behavior is not so severely disturbed, was added to the field of psychiatry at the turn of the century through the interests of Bernheim, Charcot, Janet, Freud and many others. Study of this most important group of patients has gradually led to our present day concepts of psychodynamics and personality formation. Out of this interest psychotherapy developed, a therapy which is etiologically oriented. These theories of etiology and of therapy were then applied to other groups of patients such as the behavior disorders of children, the delinquents and the criminals.

The extension of the conceptual framework of psychiatry, however, did not stop there. The psychodynamic principles influenced other fields of learning: psychology, education, sociology and cultural anthropology. So, too, have psychiatric concepts been extended in medicine to include a considerable group of illnesses commonly desig-

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nated psychomatic: peptic ulcer, hypertension, ulcerative colitis and asthma. Psychiatric concepts have also demonstrated that every illness has its psychic component and may require treatment in addition to the correction of structural and physiologic changes. Concurrent with the inclusion of the various patient groups in the field of psychiatry has come the integration of psychiatry with medicine. No longer is the psychiatrist isolated with his patients in a state hospital. His findings are of aid in the study of the causation and treatment of disease in general.

The therapies of psychiatry, therefore, have developed in relation to the diverse groups which constitute the field. They vary from the empirical electric convulsive and insulin coma therapies for psychotic patients through the gamut of medicinal and surgical procedures for the organically ill, to psychotherapy for the psychoneuroses and allied groups of illnesses. Since the latter groups of patients constitute a significant segment of each physician's practice, about 30 per cent, it becomes important that every physician be familiar with the principles of psychotherapy and, as with other complicated medical and surgical procedures, learn his own limitations in the use of this therapeutic tool.

There are different technics of psychotherapy and the results vary with different types of patients. For instance, of 341 patients diagnosed psychoneurotic and treated at the Psychopathic Hospital between the years 1929-37, it was found in a follow-up study that 40 per cent had completely recovered while 18 per cent were greatly improved.¹ The combined figure of 58 per cent is about the same as the results reported from other clinic.^{2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14} One may conclude that under relatively optimal circumstances for treatment, psychotherapy will be of considerable benefit to 60 per cent of the civilian psychoneurotic population.

It should be pointed out that this figure of 60 per cent applies primarily to the chronic and severely incapacitated psychoneurotic patients who required hospitalization. Fortunately there are other patients with better prognosis who are less severely ill: those with relatively stable personalities, those whose illnesses are of acute onset and of short duration and those whose illnesses occur under considerable environmental stress. It is this group that the physician in general practice may treat with considerable success. The physician in general practice is in a particularly favorable position to utilize his knowledge of psychotherapy. It is he to whom the patient comes when the illness begins, when the prognosis is most favorable.

The traditional attitude of the physician is conducive in itself to the establishment of a relationship with his patient which is so essential for therapy. The nature of the practice of medicine leads the physician to be sympathetic, tolerant and at the same time to assume responsibility for the patient's illness. On the other hand, the person who is ill, the patient, comes as a suppliant, seeking help, wanting sympathy and understanding. But more than that, the patient, as well as his relatives, desires the physician to assume the responsibility for the illness. The patient wants to receive encouragement and support. He wants to feel protected and know he is being helped. He readily becomes dependent upon a person he trusts. So, the patient gradually comes to invest the physician with an overwhelming quality of omniscience similar to that he had experienced as a child in relation to his parents.

This combination, then, of the sympathetic, omniscient physician on the one hand and the dependent, ill person on the other, is an ideal setting for psychotherapy. The establishment of this patient-physician relationship is of paramount importance for without it communication is restricted and limited and therapy cannot proceed. To establish this relationship so fundamental for treatment, the patient with an emotional illness must be accepted as a sick person. If the physician rejects him, there may be an increase in the severity of his symptoms and his therapy may be more difficult. Moreover, by being rejected, the patient may become resentful and bitter towards medicine and turn to the cultists for help. The art of the practice of medicine revolves around the fundamentally positive relationship of physician to patient. This "art" has scientific validity as a therapeutic tool.

One type of psychotherapy, called supportive, is of considerable aid for those illnesses which result in part from the patient's inability to cope with overwhelming environmental stress. It need not matter whether this stress be economic, social, occupational, marital or sexual in nature, for it almost always involves a disturbance in interpersonal relationships. In spite of the frequent obviousness of the overwhelming social situation, the patient rarely connects these circumstances with his symptoms which to him seemingly occur quite independently of his present life stress. The core of supportive psychotherapy then is to (1) help the patient discover the intolerable environmental situation, (2) help the patient understand his reaction to the situation, (3) help the patient find a solution for or adjust to the stress and (4) support the patient by reassurance and en-

couragement until an adequate solution has been found.

Although this sounds relatively simple, in practice it often is quite complicated. It requires first the eliciting of a detailed personal and social history. This is not too difficult for the patient who has confidence in his physician. It does require, however, sympathetic urging and guidance on the part of the physician. The art of listening is important if one wishes to succeed in eliciting guilt-producing, unpleasant and unhappy interpersonal experiences. These are the experiences which the patient is struggling to reject, to deny or to forget. Only when the proper patient-physician relationship has been established will the important attitudes, phantasies and desires of the patient become apparent. In this type of psychotherapy the physician's attitude is one of reassurance and support while his sympathetic ear seeks, primarily, intolerable stresses in his patient's day to day living.

Once a clear picture has been obtained of the patient's particular stress, whether it be a nagging wife, a domineering mother-in-law, an irate employer, a clandestine love affair, a chronically ill relative or the death of a loved one, the physician may begin to help the patient understand his emotional response to that environmental stress. What seems obvious to the physician is not readily understood by the patient. The patient is unaware of the emotional turmoil aroused by his reaction to his environmental circumstances. The emotions involved may be repressed, the patient does not let himself recognize them, they no longer remain in consciousness. Consequently the only signs are either the physiologic discharge of the emotion without the awareness of the feeling state or other symptoms which are symbolic of the repressed emotion. His illness is thus a manifestation of his unrecognized emotional turmoil. By allowing the patient to freely discuss his situation, his true feelings will eventually become evident to him. Then one will find that these feelings and impulses cannot be relieved by any direct behavior on his part. His emotions cannot be discharged: if he is angry, there must be no hostile behavior; if he is fearful, he must not run away; if he wishes affection, he cannot plead for or obtain love. The appropriate behavior stimulated by the situation is blocked. The physician through his sympathetic reassurance, ability to listen and explanations brings the patient to realize that his illness is due to his emotional impulses of which he is now aware but which he has not as yet been able to express adequately.

Once the intolerable situation has been defined

and the resultant emotional impulses identified, two general procedures are indicated. The first involves helping the patient to find a solution to his intolerable situation so that the emotional reactions thus stimulated may be relieved. The second involves helping the patient to find a way to satisfactorily express his rediscovered feelings and impulses.

In regard to the first, the various possible solutions to the intolerable situation should be discussed and the patient encouraged to select one within the bounds of reality. The physician should be most careful that he does not select the solution for the patient; what may be an appropriate solution for the physician if he were in a similar situation may not be appropriate for the patient. The physician is not interested primarily in giving advice but in encouraging the patient to select a solution which will lessen the intensity of the emotion or solve the problem. It sometimes happens, of course, that there is no solution available, and the patient will have to adjust to and accept his difficult life situation. This does not mean that the patient may not be helped. It does mean that the second procedure is indicated: that the patient become capable of handling his feelings and impulses in a more realistic way. The pertinent question then becomes, why could not he express his emotions more overtly? Why does he feel guilty or afraid? A step which may be of importance in the overcoming of the patient's resistance to the expression of his feelings may occur in the physician's office. There the patient feels safe and may be able to begin to express his feelings and verbalize his impulses. He should be urged to thus express himself in this safe situation. With repetition of this expression he becomes less fearful and less guilty of venting his emotions and thus gradually can be led to more suitable outlets for his newly recognized emotional state.

As an illustration of this point, I should like to report a case in brief: A female patient was being buffeted between an egotistical, domineering husband and a self-righteous, demanding mother, the latter two at constant verbal warfare. She was anxious, tense, restless and suffered from insomnia. Her physical complaints were chiefly occipital headache, palpitation and dyspnoea. After a few interviews, this patient became aware of her feelings of anger aroused by being ordered about and being dominated constantly in her domestic situation. She was most unhappy when she became aware of her true feelings. Finally after a stormy interview, she returned home with great resolve to end her intolerable situation and selecting the appropriate moment let go a dish

at her husband. This was most rewarding for it quickly became apparent that the husband would tolerate the more aggressive behavior of the patient. The overwhelming success of the patient's venture with her husband led to a somewhat similar one with the mother. As a result she rapidly became symptom-free and happy, although I am not quite sure that the same may be said for the other members of her household.

As has been mentioned, this type of psychotherapy is particularly useful when applied to those psychoneurotic patients characterized by a fairly stable personality with acute illnesses of short duration which occur in relation to severe environmental stress.

Another group of patients, many of whom may similarly experience relief by the same procedures, are those suffering from psychosomatic disorders, as essential hypertension, duodenal ulcer or asthma. These patients are characterized by failure to discharge their emotional tensions appropriately.

A third group of patients, some of whom may be similarly helped, consists of children with primary behavior disorders. In this group the stress is most frequently the result of the adverse interpersonal relationships that exist between the child and his parents or parent substitutes. Hence in treating a child one frequently has not only the child as a patient but the mother and father as well.

Although many patients can be successfully treated by the above regime, there are many more whose illnesses are more complicated and require the services of a specialist. It is for the physician in general practice to learn which patients he may help and which ones should be referred. Certainly those patients with chronic or severe psychoneuroses, those that are psychotic, those with profound personality deviations or character neuroses, those with impulse neuroses, those that are delinquent or criminalistic and children with severe behavior disorders should be referred to the psychiatrist.

Although the above mentioned groups of patients are such difficult therapeutic problems that the services of psychiatrists are indicated, the fact remains that the physician in general practice must carry many of them. The word carry is used advisedly, for that is in actuality what the physician must do. He literally supports the patient. He gives sympathetic encouragement and reassurance in big doses. This does not effect recovery but it may and probably will be the crutch that the patient needs to remain active in his economic and social life. Without this support from his physician he either becomes a

chronic invalid or seeks help at the hands of members of the cults which persist in pursuing the healing arts.

In the majority of the patients referred to the psychiatrist, the severity and chronicity of the illness requires a different and more detailed technic than the one described. It may be referred to as an "uncovering" psychotherapy. It has for its goal the emotional reorientation of the patient. It is this technic which is so detailed and time consuming. This technic probes to reveal and then relieve those impulses and drives deeply buried within the unconscious of the patient which result in his basic conflicts and hence his illness. It attempts to make profound changes in the deep-rooted attitudes of the patient. His general level of adjustment is improved. In contrast, supportive psychotherapy attempts to improve the adjustment of the patient to his particular circumscribed environmental stress. The uncovering technic is an extension of that initiated by supportive therapy and is applicable in those instances where the latter technic fails.

The physician in general practice then should be concerned with more than diagnosis. He should be concerned with whether or not he should attempt psychotherapy. If in doubt, a trial period would be indicated. There would be no injurious effects to his sympathetic listening. Disaster occurs only with callous and injudicious advice.

If the patient is to be referred to the psychiatrist for treatment, the referring physician can do much which will be of assistance in facilitating therapy. Most important to the patient is to be accepted as a sick person. He is sick and he should not be told "there is nothing wrong with you, it's just your imagination." The physician should convey to the patient that he may be helped, that he is suffering from an emotional illness and try to explain what this means by simple examples. The physician should impress upon the patient the need for full confidences and honesty in relating his personal experiences when he is examined by the psychiatrist.

The physician in general practice should be most careful in his explanations to the patient of the nature and causes of the illness. One must remember that patients with emotional illness are very reluctant to face their painful emotional problems. They would much rather accept an "organic" etiology. Hence, they will fasten with considerable tenacity to whatever organic findings are mentioned by the physician even though these may be incidental to their emotional illness. Any emphasis of a structural defect may then in itself add to the patient's emotional turmoil, complicate the illness and increase the difficulty of therapy.

Surgical procedures, when inadvertently directed toward the therapy of a misdiagnosed emotional illness, present an almost insuperable obstacle to subsequent psychotherapy. It is apparent, and should here be re-emphasized, that accurate diagnosis determined by careful study of the patient must precede the choice of therapy. The decision for psychotherapy must be reached with the same care as that for medicinal or surgical procedures.

In conclusion, psychiatry has emphasized the importance of the total person as he reacts to the vicissitudes of life in the development of disease. The "art" of medicine is gradually receiving scientific validation in the principles of psychotherapy. The physician in general practice is thus urged to make greater use of his "art." It is he who may treat when the processes of disease are incipient. His reward will be in the gratifying results he obtains.

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SOME CAUSES AND TREATMENT OF EPISTAXIS

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Nosebleed is, as you know, a very common occurrence. Most of them are of little significance, arrest themselves spontaneously and do not require the attention of a physician.

However, when it becomes necessary to treat a nosebleed, the immediate need is to stop the bleeding. This initial treatment should be followed by a more thorough examination for possible etiologic factors.

The number of conditions in which epistaxis occurs is legion. The commonest cause is prob-

ably minor trauma. Picking of the nose is a frequent cause in childhood. Fractures of the nose and facial bones need only to be mentioned. All of us have had postoperative hemorrhage following intranasal operations. Adenoids are given by some authors as a cause by producing congestion of the nose. Nosebleeds, occurring spontaneously for no apparent reason, are seen more frequently in the wintertime. Possibly the decreased humidity that occurs in our dwellings during the winter months may predispose to this type of nosebleed by virtue of drying out the nasal mucosa.

Of the blood dyscrasias, leukemia is probably the one most commonly seen. Hemophillia, scurvy and vicareous menstruation are mentioned by the textbooks but are so rare as to give us little concern.

Among other etiologic factors which are not very common but give rise to serious bleeding are angiomas of the septum. They are usually situated near the front of the nose and are easily seen. An effective method of treatment consists of excision and cautery of the edges.

Multiple telangiectases or Osler's disease is occasionally encountered. All those reporting this disease attest to the fact that it is extremely difficult to treat. It is a hereditary defect of the capillaries characterized by minute stellar vascular ramifications in the skin and mucus membranes. Epistaxis is the commonest symptom. It may be slight or severe enough to cause permanent invalidism from anemia. Some of those men who have had experience with this disease recommend radium and irradiation as the treatment of choice, whereas Figi¹ and Watkins of the Mayo Clinic discount the use of radium and advise thorough electrocoagulation under general anesthesia and mention at the same time that destruction of the visible telangiectases is followed by rapid formation of others near-by. One author suggests total resection of the septum. Dickie advises that patients suffering from this disease carry around with them a collapsible rubber tampon affixed to a catheter which they may insert in the nose and inflate to the required degree to arrest the bleeding.

Rheumatic fever has repeated nosebleeds as one of its symptoms. This type of bleeding is thought by some to be due to increased fragility of the capillary wall and they advocate the use of Vitamin C. Neivert² and his co-workers, in the course of their investigation of the relationship of Vitamins C and K to late tonsillar bleeding, also made a study with respect to epistaxis. In a group of 104 cases of epistaxis of varying causes they found that in 90 per cent there was

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a lowered prothrombin or ascorbic acid level. These patients were treated by giving daily doses of 300 mg. of ascorbic acid or 15 mg. of Vitamin K like-substance or both for a period of from one to two weeks. They state that there was marked improvement in the severity and also in the recurrence of attacks of nosebleed in 90 per cent of cases treated.

In the older age groups, arteriosclerosis and hypertension are probably the most common causes of epistaxis. It is thought by many that this type of bleeding to a certain extent is beneficial to the patient, but Spar and Hallberg of the Mayo Clinic state that sudden fall in blood pressure accompanying hemorrhage may induce a coronary occlusion and report several cases to substantiate their claim. Bleeding in a hypertensive patient is frequently arterial and often far back in the nose and is therefore more difficult to treat.

The possibility of neoplasm of the nose and sinuses as a cause of nosebleeding should always be kept in mind.

Epistaxis occurring in pregnant women may be unusually severe and intractable. Goff of Seattle reports two cases of epistaxis which began in the seventh month of pregnancy. The first case had not responded to the usual procedures and termination of the pregnancy was attempted, but she expired while Cesarean section was being done. In the second case, likewise not responding to local therapy, the pregnancy was terminated. A Cesarean section under local anesthesia was done. The bleeding from the nose gradually ceased and within five hours had stopped and did not recur.

Davis,³ in 1936, reported one case of epistaxis occurring in the seventh month of pregnancy which was not controlled until therapeutic abortion was done. Strauss⁴ gathered reports on seven severe cases of epistaxis during pregnancy. Treatment consisted of local tampons, postnasal packs, blood transfusion, cautery, ligation of the external carotid artery and induced abortion. Three of these seven patients died. Two of his conclusions are: "First, given a case of severe epistaxis when local measures fail, ligation of the external carotid should be performed to save life. Second, severe epistaxis may be stopped by termination of the pregnancy."

Mortimer, Wright and Collip⁵ concluded from a careful study of monkeys and humans that the hormones of the ovary exercise a specific physiologic influence upon the mucus membrane of the turbinates, both during the menstrual cycle in the monkey and in pregnancy in the human subject. From an investigation of 60 pregnant

women it was found that in the majority of patients, the urinary estrin and the nasal redness and swelling increased as the time of pregnancy increased. After delivery, both fell off sharply.

In the local treatment of epistaxis the methods are almost as numerous as their causes. In controlling bleeding from Kisselbach's area simple pressure momentarily over the bleeding point may be all that is necessary. Various other means of controlling bleeding are packing with vaseline or iodiform gauze, application of salt pork and the use of various hemostatic agents. Failing these, submucous injection of novocaine or submucous elevation of the membrane are often effective. If bleeding is coming from behind a septal deformity, submucous resection may be necessary.

The simplest and most effective method when the bleeding point can be seen is probably direct cauterization either by chromic acid head, silver nitrate or electrocautery. Cautery of an actively bleeding vessel can sometimes be quite difficult since the cautery expends itself upon the blood and does not reach the vessel. In many cases this can be overcome by temporarily arresting the bleeding by the injection of novocaine and then supplying the cautery.

Various sclerosing agents have also been used. Fox, of the University of Maryland, is particularly enthusiastic about their use. He has used a preparation termed sylnasol in more than 500 cases. He states no serious side effects or complications have been observed. The resultant edema at the site of the injection often produces slight nasal obstruction on that side for a few days.

When the bleeding point cannot be seen or when anterior packing has failed to control the bleeding, postnasal packs must be resorted to. In using a postnasal pack it is quite important to have it small enough so that it may be drawn up snugly into the posterior choana and not ride astride the edge of the septum. A small pack is also retained with much more comfort and less trauma to the soft palate. The largest possible pack, however, would be necessary where bleeding is coming from the nasopharyngeal wall. In the matter of how long a postnasal pack may be left in, the rule of the textbook has been not longer than 18 to 24 hours. Many report leaving them undisturbed for days to weeks. In one of my own cases a postnasal pack was left in for three weeks with no complications. When postnasal packs are left in for long periods, the ear drums should be watched closely, and penicillin given prophylactically is useful in preventing secondary infection.

In the case of serious bleeding where all meth-

ods of treatment have failed and the life of the patient is feared for, ligation of the blood supply is the only choice. A knowledge of the blood supply of the nose is of practical advantage when ligation is to be employed.

The arterial blood supply of the nose is derived from both the external and the internal carotid arteries. The terminal branch of the external carotid artery is the sphenopalatine artery. The sphenopalatine artery has been aptly termed the artery of the nose. It is by far the chief blood supply of the nose. It reaches the nasal cavity through the sphenopalatine foramen located on the lateral nasal wall at the posterior end of the superior meatus. Its branches supply the posterior superior nasopharyngeal cavity, the lateral nasal wall and the greater portion of the nasal septum.

The external maxillary artery, which is also a branch of the external carotid, supplies blood to the anterior portion of the septum through the septal branch of the superior labial artery.

The terminal branches of the internal carotid artery which participate in the blood supply of the nose are the anterior and posterior ethmoidal arteries. They arise from the ophthalmic artery as it passes along the medial wall of the orbit. The anterior ethmoidal artery enters the nasal cavity along the side of the crista galli and the posterior ethmoidal artery enters the nasal cavity through an aperture in the cribiform plate, together supplying the upper lateral nasal wall and the upper anterior part of the septum.

It is well to keep in mind that bleeding from above the middle turbinate and anteriorly may be coming from one of these vessels. Obviously, ligation of the external carotid artery would have no effect. Goodyear⁶ has emphasized the importance of the ethmoidal arteries in bleeding coming from above the middle turbinate. Because of the efficient communication of the circle of Willis, ligation of the internal carotid artery will not control bleeding coming from the ethmoidal arteries. Ligation of the ethmoidal arteries is a simple procedure and is accomplished under local anesthesia. A 1.5 inch incision is made medial to the inner canthus, and the periosteum is elevated posteriorly until the vessels are seen passing in the connective tissue to the foramen in the suture line between the frontal and ethmoid bones along the inner wall of the orbit. The vessels may then be ligated or coagulated. The existence of anastomosing branches should also be remembered. There is a small anastomosis between the internal and external carotid systems by way of the posterior ethmoidal arteries. There is a relatively free anastomosis between branches of the external

carotid artery of the same side and with corresponding branches of the opposite side. Johnson and Foster⁷ have estimated that collateral circulation is established within five days after ligation of the external carotid artery.

Summary

Some etiologic factors in nosebleed have been mentioned. Epistaxis as a serious complication of pregnancy has been mentioned. A description of the blood supply of the nose has been given with emphasis on the role played by the ethmoidal arteries.

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Discussion

Wayne J. Foster, M.D., Cedar Rapids: It is interesting to have a condition drawn to our attention that at times is a problem to all of us. That is the reason that I would commend the author for choosing the subject of epistaxis or nosebleed. He has covered it thoroughly and there is little I can add, but I may emphasize a few points.

First of all, epistaxis is like most any other disease, it can be a very trivial thing and self limited or it can be very severe and leading even to death. It is in the severe types that our resources are taxed to the limit. In managing these cases we have to go back to the fundamental things in medicine, that is first of all a diagnosis, by that I do not mean just the finding of the bleeding point, but the general appraisal of the patient. We first see many of these people in the home and in the office, and our clinical sense will tell us at the first glance whether we can safely take care of these people in the home, or the office or whether they should be hospitalized. Too often I think we struggle around in a home with inadequate light and inadequate facilities.

It has been our practice, that if the bleeding seems to be severe, the general condition of the patient is questionable, on gross examination he shows evidence of having lost quite a considerable amount of blood, then I think that the patient should be hospitalized at once, where we have the facilities of the laboratory and the operating room. The great advantage is having these people in an operating room where the light is excellent, where the clots can be removed and a careful inspection of the nose carried out. It is important to locate the bleeding

point. It would seem to me that a common mistake that I have made, and I think we all have, is caring for a patient under conditions where good inspection is not possible. Therefore we resort to packing the entire nasal cavity rather than finding the bleeding point and applying pressure in the right place.

I would emphasize in closing that the prime importance is applying pressure by means of a pack exactly on the bleeding point. I have enjoyed this paper and I am sure we will all get a great deal out of it.

A PHYSICIAN VIEWS THE STATE VOCATIONAL REHABILITATION DIVISION

Alfred S. Price, M.D., Des Moines

Every physician should take a lively interest in any legitimate effort which is being made to improve the physical and mental condition of that portion of our population who are financially or otherwise unable to secure proper medical, educational or employment assistance necessary to become vocationally rehabilitated. One such effort is the work of the State Vocational Rehabilitation Division. This federally aided state program has as its sole objective the preparation of permanently disabled men and women for suitable types of self-supporting employment.

While the Federal Government takes a prominent part in financing the vocational rehabilitation work being carried on in Iowa, there should be no fear of the so-called "socialized medicine" in its participation. As a matter of fact, an important function of the medical profession is that of helping in the selection of disabled persons who are suitable for rehabilitation either physically or mentally. The May 20, 1950 issue of the *Journal of the American Medical Association* carried on page 301 the official recommendation of the A.M.A. that "federal assistance to the physically handicapped can be expanded, with most of this activity centralized in the Federal Security Agency, which now handles it."

It has been my observation, after having spent considerable time in this work as a medical consultant, that many of those helped by the Rehabilitation Division have been more or less neglected by the medical profession as being beyond their powers to assist. The total restoration of a disabled person to an independent self-supporting status usually requires a multiplicity of services, many of which are wholly non-medical in nature.

The physicians' participation in this program consists in making the basic medical examinations which are required in every case and in perform-

ing whatever medical or surgical procedure is found necessary to remove or reduce the handicapping nonacute condition and fit the individual for some useful occupation. All medical and surgical services are paid for and the fees correspond quite closely to those charged private patients.

In addition to the services already mentioned, the Division provides vocational counseling and guidance, tuition and supplies for occupational training, prostheses, including artificial arms, legs and hearing aids, dental restoration, maintenance during vocational preparation, occupational tools and job adjustment assistance whenever it is felt that these measures will assist the individual in his re-employment. The disabled person's financial resources are taken into consideration in determining his own ability to meet all needs other than tuition.

The Division maintains a complete file of all physicians in Iowa and utilizes the latest edition of the A.M.A. Directory. A medical consultant is available to review and interpret all medical information to the rehabilitation staff.

Close working relations are maintained with the State University Medical School, Veterans Administration, the Mayo Clinic and numerous state institutions. These cooperative relationships which have resulted in the confidential exchange of case histories and medical information have contributed greatly to the effective service of the Division.

The Division has been heartened by the increased interest that the medical profession has shown in its work. The following is quoted from Current Comment on Employment of the Physically Handicapped, page 974 of the July 15, 1950 issue of the *Journal of the American Medical Association*: "The aid of physicians should be sought, as proper placement in many instances will depend on medical advice. To gain this end, members of the medical profession can offer to advance their services. Any community can begin a program to foster rehabilitation, and community service organizations can play important roles. Physicians, particularly the general practitioner who sees much of the patients at some time, can aid in the forceful application of principles of rehabilitation. It is a worth while investment of time and interest."

More and more Iowa physicians hold professional memberships in the National Rehabilitation Associations and are actively participating in its work. It is hoped that this article might enable all members of the profession to understand more thoroughly the purposes and procedures of vocational rehabilitation.

THE TUMOR CLINIC AND THE PHYSICIAN

Edmund G. Zimmerer, M.D.,* Des Moines

On the surface it would appear that Iowa has a reasonably good cancer control program. There is excellent rapport between all the agencies concerned, the State Medical Society, the Iowa Division of the American Cancer Society and the Division of Cancer Control of the State Department of Health. A consistent effort is made to carry on both lay and professional instruction. There are lectures and institutes and a wide distribution of cancer literature. Our chief pride is in the existence of ten tumor clinics, the one point in the program that directly affects the victim of cancer. Periodically there are enthusiastic meetings with glowing reports, backslapping, and mutually congratulatory speeches. But what are we actually accomplishing for the sufferer from cancer?

Lay groups in every county are organized, and are carrying on a successful program of lay education, but in many areas there is a lamentable lag of professional activities because of medical inertia. True, the profession has been aroused to a new and quite general interest in cancer, but it is on the whole somewhat superficial and too many doctors seem unwilling to shoulder the added responsibility, study and work a good service entails.

We give lip service to the principle that periodic health examination is desirable, in that it reveals not only early cancer, but other beginning disabilities. But when we have opportunity to make such examinations, they are made in a more or less perfunctory manner or we complain that we are too busy caring for sick people to be bothered by those who are apparently well.

In cancer we have a deadly disease if it is not recognized and treated early. This we admit, but unless we are willing to look for cancer before symptoms make it apparent, and, perhaps hopeless, how can we hope to treat it in an early stage?

Cancer, too, is a protean disease, not limited to the scope of any one specialty. Hence it is well nigh impossible for any individual regardless of his professional qualifications to recognize it in its every manifestation. Proper treatment in a given case depends on many factors: the type of tumor, the extent of the disease and degree of metastasis and the age and general physical condition of the patient. In many instances the surgeon, the radiologist or the pathologist alone and unaided cannot make an ac-

curate decision. As a team, their judgment is not limited by their training and experience. The pathologist instead of being an isolated researcher, becomes more clinically minded; the surgeon and radiologist achieve an enlarged and over-all view of cancer therapy, not possible to one who pursues his investigation in a limited field.

Thus tumor clinics have been organized to bring such group diagnosis and treatment recommendations to the advantage of the individual cancer patient. The tumor clinic is not a material entity, it is rather an aggregation of physicians, a collection of opinions, a joining of skills. The ten clinics in Iowa operate under the control of the local county medical societies. As is to be expected, they vary in quality from weak to very strong. Some are sparsely manned by men with but scant interest in the subject. In others there seems to be an inclination to give full consultation and follow-up in every case of malignancy. In these it is the established policy that every case of malignancy be referred to the tumor clinic. Some of the tumor clinic personnel have prepared themselves by special postgraduate work. Some clinics seem to exist only to give care to indigent patients; others make the tumor clinic a center for postgraduate cancer education for the physicians of the area.

In the tumor clinic there prevail the same ethical practices which govern consultation anywhere else. The referring physician retains complete management of his case. The clinic does not take business from him. On the contrary, it enhances the quality of his service and reinforces his opinion if he is right and sets him on the right track if he is mistaken without exposing his error to the patient.

If a clinic is manned by inexperienced interns, or by but one physician, it is not an improvement upon examination by a qualified practitioner. Its efficacy depends upon the readiness of doctors, both general practitioners and specialists, to pool their resources of knowledge and experience to the general advantage of the profession and the special benefit of the patient. A good clinic brings together, for their mutual improvement, the specialists who may learn from each other and from the volume of clinical material presented, the practitioner who refers the case, and other interested physicians of the community. There is almost a superfluity of cancer teaching these days, what with cancer institutes, cancer literature and cancer films, but what is most needed and most helpful is definitive clinical instruction. Where can this better, or more easily, be obtained than in a local tumor clinic?

Is the tumor clinic providing clinical instruc-

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tion or is it utilized as a dump for the disposal of indigent or otherwise undesirable patients? Of course, if only one or two men gather to see merely an obvious skin lesion, or no cases whatever are presented, they soon lose interest and attendance falls off. But if competent men bring some of their own patients, fully worked up as they may be, even if the diagnosis is clear and the treatment program correctly outlined, others will be stimulated to better work and the clinic will become as it should be, a center for cancer teaching. Even when there are no cases, the time can be occupied profitably by the presentation of a paper on some oncologic subject or a clinicopathologic conference.

There are justifiable criticisms of the tumor clinic. Most of them could be obviated by the medical profession itself. Destructive criticism often comes from those who have never referred a case nor attended a single session of the clinic. Many physicians view with some political bias the source of the funds whereby the tumor clinics are supported.

An Iowa newspaper reporting the recent conference of tumor clinic personnel referred to the clinics as Truman clinics, possibly an unconscious reflection of the rather general opinion in the state. Actually tumor clinics were recognized as one of the best ways to control cancer in the light of our present knowledge long before the era of the fair, and even before the new deal first made funds for this purpose available.

Most of us, regardless of our political adherence, can subscribe to the Jeffersonian dictum that the object of government is "to do for the people what they cannot by individual effort do at all, or do as well for themselves." It must be granted that the program of cancer control, not to speak of many other public health activities, is far in advance of what it would have been had we awaited popular demand or legislative action. What matter how the funds are raised, whether by the state tax commissioner, or the U. S. Collector of Internal Revenue, it is still our money collected from us in Iowa.

The experience of tumor clinics in Iowa proves that acceptance of federal support in this instance at least involves no government control. Every one of Iowa's clinics is autonomous: they are chartered by the State Department of Health; standardized by the American College of Surgeons; controlled and governed by the county medical society—all strictly medical agencies. They do not even operate uniformly; there are scarcely any restrictions except as to the qualifications of the personnel.

Despite our commendable ideals, and the en-

ergy we devote to speaking and writing on the subject, people are yet dying of cancer in Iowa because of poor management of the case. In many instances this is because the disease is not seen in an early stage. Perhaps even this is because some physician sometime was too busy to make an examination or because the examination was too superficial to permit establishing the diagnosis. But some others die because of gross mishandling. A belly is opened and closed, and the family given a hopeless prognosis, because the surgeon too late recognizes his own limitations. Or x-ray treatments are administered by someone without qualification, sometimes with hopelessly inadequate equipment.

It is not an admission of inferiority to accept or ask for consultation in cancer diagnosis or therapy. No one today knows all there is to know about cancer, and we owe it to the patient, if not to ourselves, to secure for him the consensus of the best medical judgment and the highest quality of service obtainable, especially when it is so accessible.

We cannot remain apathetic in the face of the increasing number of cancer deaths. The tumor clinic is a mutual device wherein we give every cancer patient the best possible chance for cure. It is of use to the doctor, in exactly the proportion that he is willing to give of his time and service to it. Your tumor clinic can be efficient, if you help make it so.

**IOWA METHODIST HOSPITAL
CLINICOPATHOLOGIC
CONFERENCE**

**Stanley K. Davis, M.D.
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Des Moines

Summary of Clinical Record

A 22 year old white male was admitted to the hospital February 15, 1950, following an automobile collision. He denied loss of consciousness. Entrance physical examination revealed the patient to be "shocky" but conscious and alert. Blood pressure at 8 a.m. was 104/80 but had dropped to 84/50 at 10 a.m. A deep laceration of the scalp extended from the bridge of the nose to well behind the hairline, exposing the periosteum. There was no obvious skull fracture. The pupils were round and equal and reacted to light and accommodation. No drainage of cerebrospinal fluid or blood was noted from the nose, ears or pharynx. Exami-

nation of heart and lungs was negative. The abdomen was soft and free of tenderness or palpable masses. The lower extremities revealed marked swelling, deformity and shortening of both thighs. Neurologic examination was recorded as negative at the time of admission. X-ray examinations were deferred pending improvement in the condition of the patient. A routine urinalysis was normal. Emergency therapy consisted principally of shock management with 500 cc. of blood, 500 cc. of plasma and 1,000 cc. of 5 per cent glucose in normal saline.

At 2 p.m. the patient was transferred to a hospital room. Examination at that time revealed the patient to be poorly responsive; otherwise, the examination was essentially as previously noted. Reflexes were normal, and sensation was apparently intact insofar as could be determined. Blood pressure was 124/20. Both legs were placed in Thomas splints, the left thigh being so swollen as to necessitate the use of a half ring splint. Oxygen was administered by nasal catheter. Antibiotics were administered prophylactically. In the course of the afternoon and evening, 1,000 cc. of amigen and 1,000 cc. of 5 per cent glucose in normal saline were administered intravenously. He responded to painful stimulus but was variably lethargic and confused. At 10 p.m. the blood pressure was 130/54, temperature 101 F., pulse 132 and respiration 20; these figures were representative of those obtained throughout the day. Repeated neurologic examinations were consistently negative for localizing signs of cerebral trauma or other changes aside from the confused sensorium and irrational talking which continued through the night despite frequent administration of codeine and occasionally morphine.

On the morning of February 16, 1,000 cc. of amigen were administered intravenously. The patient's condition remained apparently unchanged until 3:30 p.m. when the axillary temperature was noted at 104.2 F. Neurologic examinations were still negative and the fundi were normal. The skin was clear. Hematologic studies on February 16 revealed 3,400,000 red cells per cu. mm. and 11 grams of hemoglobin per 100 cc. The white blood cell count was 2,700 per cu. mm. with 44 per cent band cells, 36 per cent segmented neutrophils, 16 per cent lymphocytes and 4 per cent monocytes. At 5:15 p.m. the blood pressure had fallen to 68/40. There was increasing dyspnea; the respiratory rate was 32. At 6:15 p.m. 500 cc. of whole blood and 500 cc. of normal saline were administered intravenously. The patient was stuporous, but responded to pain. Physical examination revealed

easily audible wet rales in all lung fields. The total recorded urinary output was 1,350 cc. at this time, calculated from the time of entry. At 9:50 p.m. 1,000 cc. of 5 per cent glucose in normal saline were administered, but by midnight the blood pressure was 90/48 and the temperature 99.2 F. (axillary). The patient continued stuporous. Respiratory difficulty and fingernail cyanosis were noted. An additional liter of glucose in normal saline was given at 12:30 a.m. on February 17. At 2:25 a.m. abdominal breathing was noted. At 7 a.m. the blood pressure was 112/56, but the respiratory rate was 52. Grossly audible large wet rales were heard in all lung fields. The patient expired at 8 a.m. An autopsy was performed.

Differential Diagnosis

Dr. D. N. Gibson: It is not my intention, in the short time at my disposal, to make an exhaustive survey of the posttraumatic complications which might have formed the principal basis for, or have contributed to, the death of this young man. Aside from the time required to so treat the case it does not appear justifiable in view of the incomplete information in the clinical protocol.

We are presented with the clinical problem of a young man of 22 years who has suffered trauma sufficient to fracture both of his femurs. Perusal of the information available indicates that this young man expired as a result of progressively increasing hypoxia, as is suggested by his progressive dyspnea, cyanosis and cerebral symptomatology. What possibilities must we consider to explain the development of this train of symptomatology? Certainly shock must be considered and, at least early, shock was undoubtedly a prominent factor, but following the administration of blood and other fluid, this aspect of the problem appears to have been at least partially allayed, and the train of events does not seem consistent with the picture of progressive delayed shock. I believe that the respiratory and cerebral manifestations were of dominant importance, and that vascular collapse, although perhaps contributory to the clinical picture in some degree, did not represent the primary problem.

Next we may consider intracranial hemorrhage. This is an important possibility for the protocol informs us that there was a large scalp laceration. No skull fractures were clinically observable but x-rays were not taken. However, a subdural hemorrhage seems unlikely; the history is not typical. The typical history of subdural hemorrhage is one of a trivial injury with late localizing signs, a week or 10 days following injury and then the development of coma. This man's cere-

bral manifestations were those of variable degrees of cerebral irritability and depression such as one sees under the influence of hypoxia, or as the result of multiple focal lesions such as result from systemic fat embolism. So far as middle meningeal artery hemorrhage is concerned, localizing signs were never observed. We have no data relative to the cerebrospinal fluid, no doubt due to the precarious condition of the patient. Let me mention at this point the possibility of an incompatible transfusion, although I do not consider this a likely possibility. Much of the symptomatology presented by this patient might be attributed to such an accident. However, in the absence of evidence of hemolysis, marked hyperpyrexia, anuria or hemoglobinuria, this possibility must be discarded as remote. Similarly, we may mention infection in the wound. The protocol does not suggest this as likely, and it is too early for most infections. A ravaging infection at such an early date could be represented by the Clostridia group of organisms only.

Turning our attention to the lungs as we seek the cause of this man's hypoxia, we must again consider shock for it can certainly contribute to hypoxia on a pulmonary basis, but I have already decided that shock per se was probably not the major factor here. Hemorrhage, either parenchymal or pleural, might easily cause hypoxia on the basis of reduction of aerated pulmonary alveoli, but we have no hint in the protocol to suggest these as likely possibilities. I must also make the observation that, had this boy had a lung injury, I, as an orthopedist, would probably not be discussing the case. Although some degree of hypostatic pneumonia and atelectasis may have been present terminally, it does not seem likely that these factors represented a major cause of death.

Finally, we come to a consideration of pulmonary embolism. Emboli might take three forms: blood clot, air or fat. Fat embolism is a not uncommon complication of long bone fractures, particularly the femurs and tibias, and pulmonary fat embolism, when severe, is attended by pulmonary edema, the development of which is suggested by the physical findings. I wish to mention the kidneys only to point out that, according to the protocol, urine output was estimated to have been over 1,000 cc. in the period of two days. Apparently no abnormalities were ever noted in the urine, and this output can hardly be considered oliguria such as one might expect in severe shock. Crush injury, of course, does not produce symptoms referable to the kidneys until a later date.

Now we return to a consideration of the frac-

tured femurs which I asked you to keep in mind at the outset of this discussion. Most instances of fat embolism result from fractured femurs or other long bones. Consequently, fat embolism must surely be considered as a prominent possibility in this case. In general, this case fits the clinical picture of fat embolism quite well, although some signs are missing. Such a clinical picture includes a history of injury, most commonly a fracture of the femur and/or tibia and an interval free of complicating signs or symptoms—represented in tonight's case by a short period of perhaps ten to twelve hours. The mental changes are characterized by confusion, restlessness with alternate elevation and depression of the conscious state. The temperature may be elevated. Breathing is stertorous, and auscultation may reveal the large wet rales of pulmonary edema. There may be frothing at the mouth and Jacksonian fits. Petechiae appear on the skin, usually about the neck and in the conjunctivae; they are also found in the fundus of the eye. With this incomplete analysis to serve as a background, I submit the opinion that the clinical cause of death was primarily the result of massive fat embolism to the lungs with associated cerebral fat embolism.

Necropsy Diagnoses

Dr. S. K. Davis: At necropsy, the subject of this evening's discussion, a young adult male, well-developed and well-nourished, evidenced obvious bilateral fractures of the lower one-third of both femurs, a point confirmed by postmortem x-ray examination. There was marked displacement of the fragments with comminution. There was obvious and marked edema and ecchymosis involving the deep soft tissues of the thighs adjacent to the fracture sites. Extensive scalp lacerations were evident but there was no obvious skull fracture. There were no visible cutaneous petechiae. The abdominal viscera were unremarkable. Examination of the thoracic viscera revealed pronounced edema of the lungs. Each lung weighed approximately three times the average weight, and the cut surfaces of each evidenced an abundant exudation of foamy, pink stained fluid. Although tiny fat droplets were apparent in the fluid, large quantities of grossly visible fat were not observed. Examination of the brain revealed petechial hemorrhages widely disseminated throughout both gray and white substance. There was perhaps a minimal degree of cerebral edema, the brain weighing slightly above the average normal weight, but there was no significant flattening of the cerebral convolutions. A linear fracture, without evidence of

comminution or displacement of the right supra-orbital plate, was observed unassociated with corresponding contusion or laceration of the brain in the right frontal lobe.

Microscopic examination revealed the following significant features: The lungs were tremendously involved by an intra-alveolar protein precipitate which was interpreted microscopically as protein-containing edema fluid. There were multiple vacuolated phagocytes in the alveoli and in the pulmonary interstitium. Fat stains revealed the Sudanophilic fat in capillaries, alveoli and phagocytes. Microscopic examination of the brain revealed multiple foci of anemic and hemorrhagic infarction, and fat stains revealed these areas of infarction to conform to areas of distribution of lipid-containing capillaries. The final anatomic diagnosis was, corroborating that of Dr. Gibson, pulmonary fat embolism with associated pulmonary edema and cerebral fat embolism.

Clinical diagnosis:

Pulmonary and cerebral fat embolism.

Dr. Gibson's diagnosis:

Pulmonary and cerebral fat embolism.

Postmortem diagnosis:

Pulmonary and cerebral fat embolism with pronounced pulmonary edema.

Pathologic Correlation

Dr. Davis: This evening's case is presented not because of its academic interest but because it is our conviction that the entity which it exemplifies plays an important and poorly recognized role in the morbidity and mortality associated with certain clinical situations. There appears to be no question but that recognition of the significance of fat embolism from sites of bone trauma is of definite practical importance to the conscientious physician attempting to give his patient the benefit of an informed mind and judgment.

The general lack of awareness of the clinical importance of fat embolism is, in a large part, probably attributable to pathologists who have failed to recognize this complication at autopsy, thereby having failed to impress upon their clinical colleagues the existence and significance of the condition. It is with this thought in mind that we take the opportunity to perform our function as clinical pathologists working with clinicians in an effort to improve the quality of medicine which we practice. We will, therefore, feel well satisfied if nothing more is accomplished than to create a real consciousness of the existence of fat embolism as an important factor in morbidity and mortality occurring in

association with certain types of trauma.

Figures for the incidence of fat embolism vary widely and are probably generally unreliable. Figures determined by clinicians without autopsy studies are almost certainly too low. It has been stated that fat embolism occurs more frequently than any other type. Scott, Kemp and Robb-Smith¹ reported fat embolism as an almost constant finding in one autopsy study of 115 cases of fatal accidents. Various other autopsy studies have reported varying degrees of fat embolism in 24 to 74 per cent of routine autopsies with about 5 to 7 per cent of these being considered sufficiently severe to be important clinically. Without the benefit of statistics, it may serve to illustrate the point if I explain that I, personally, have observed, at necropsy, three fatal cases of fat embolism in recent months. One may observe that although these do not constitute a statistically definable incidence, they do represent an incidence of three patients who will be quite as dead whether their deaths be incorporated in a series of 100 or 1,000. There is universal agreement that the most important single predisposing cause of fat embolism is fracture of the long bones, particularly the femur and tibia. Warren,² in a study of the files of the Army Institute of Pathology, found 91 cases occurring in cases of trauma associated with fracture. Of these, fractures of the tibia, femur, or both, were present in 82 per cent.

In addition to the major importance of fractures of the long bones, there are on record significant numbers of cases noted to occur following surgical procedures involving trauma to adipose tissue such as breast amputations and other surgery on obese individuals.³ Warthin⁴ has emphasized the increased danger of fat embolism in orthopedic operations involving osteoporotic bone because of the increased quantity of marrow fat. In rare instances, simple jarring of the skeleton may be sufficient to excite the release of fat into the blood stream. Warren has noted that there are three essentials for the entrance of embolic fat into the circulation: (1) mobilization of liquid fat, (2) disruption of veins with persistent patency and (3) development of local pressure to force the fat into the venous circulation. It may be seen at once that fractures of long bones ideally meet these conditions. The marrow cavities contain large quantities of neutral fat. The veins maintain their patency by attachment to the walls of the Haversian canals, and the development of local pressure is easily understood.

It does not seem profitable to discuss the pros and cons of the transport of fat via lymphatics

or venous pathways. Both paths are undoubtedly used, the venous pathway seems undoubtedly the more important. The observations by Warthin, Warren and others of bone marrow particles in the lungs in several of their cases would seem to establish the marrow cavity as a source for the embolic fat without much question. It will be immediately obvious that the first organ to be involved in fat embolism will be the lung as in other types of venous embolism. It will be likewise apparent that the volume of fat and the rapidity of its release will, in large measure, govern the clinical course. If the volume is large and the insult abrupt, death ensues from acute right ventricular failure, and necropsy reveals only a large amount of fat and fibrin in a dilated right ventricle and the principal pulmonary arterial branches.

If, however, the embolization is less severe, fat is forced into capillary channels where its presence greatly increases viscosity. This represents the pathophysiologic basis for the increased venous pressure which is a common clinical finding. The obstruction of large and small branches of the pulmonary circulation leads to hypoxia of the vascular endothelium with ultimate extravasation of serum, erythrocytes and fat into the aveoli to produce the fullblown picture of pulmonary edema and its attendant systemic hypoxia. In due course, histiocytic phagocytosis of fat occurs and if the process continues, inflammatory consolidation may supervene. The presence of fat in the sputum in extracellular and intracellular form has been emphasized by Warthin as a valuable diagnostic measure. Unfortunately, it seldom becomes positive before 36 hours. Gross inspection of lungs involved by fat embolism reveals bulky, heavy, soggy lungs with subserosal and intraparenchymatous petechial hemorrhages. The cut surfaces are pink and foamy; oily fluid exudes from the cut surfaces. However, the oily feature may not be strikingly apparent, and the condition may be easily missed.

It is to be emphasized that the physical state of fat in the blood stream is of greater importance than the amount. The presence of emulsified fat in the blood stream in large quantity, as in nephrosis, postcibal lipemia, or diabetic acidosis, does not cause embolism. Only fat globules of comparatively large size are of significance in the production of embolic phenomena. This observation has formed the basis for the attempt by some workers to use, as therapeutic agents, emulsifying agents such as bile salts. Scuderi⁵ and others have suggested that the lethal significance of fat embolism may depend, in part, at least, on breakdown of neutral fat into highly

irritant fatty acid. Warren, Warthin and others contest this on the grounds that the fat stains demonstrate neutral fat. Although this is true, it does not rule out the coincident presence of non-stainable fatty acids. Convincing proof for either view has not been seen. It has been previously observed that fat which embolizes the lungs is liquid at body temperature. Cognizance of this point is essential to the understanding of the subsequent pathogenesis of fat embolism. Although liquid fat in the pulmonary capillaries impedes blood flow, it does not stop it. As venous pressure rises, as a result of the obstruction in the pulmonary capillary bed, fat is forced into the systemic circulation. The fact that fat emboli are fluid and movable is very important.

This brings us to the second chapter of fat embolism. Suffice it to say that every capillary bed in the systemic circulation may be involved by fat emboli escaping from the pulmonary circuit. The most important site of systemic embolism is, however, the brain. Here, the changes induced are purely those of vascular obstruction with the production of anemic and hemorrhagic infarcts with associated demyelination of white matter and destruction of neurones. This is the pathologic basis of the cerebral syndrome of fat embolism which Dr. Montgomery will discuss with you.

Embolization of the kidneys almost invariably occurs in this condition. Anatomic changes are rare, but the fact that the circulating fat may be excreted by the kidneys forms the basis of attempt to diagnose fat embolism by demonstration of fat in the urine. Involvement of other tissues occurs but appears to be of little clinical significance in most cases, although ischemic involvement of an already strained myocardium may occasionally be of significance.

I have dwelt on pathology and pathogenesis of fat embolism at some length believing, as Shields Warren² has said, that "a clear understanding of the pathology and pathogenesis is essential to minimize its occurrence and to determine more accurately its prognosis." To this I would add the thought that it is also essential to rational therapy.

Clinical Correlation

Dr. J. L. Montgomery: Dr. Gibson has clearly summarized his analysis of this evening's case. The clinicopathologic correlations described by Dr. Davis serve well to elucidate current concepts regarding fat embolism. This is no new entity. Medical literature is replete with clinical and pathologic studies, including contributions by names familiar to us all: Dejerine, von Reck-

linghausen, Page, Wilms, and Zenker. Warthin,⁴ in a review unexcelled in forty years, concluded from a study of 560 consecutive autopsies that 12 evidenced clinically significant embolism. Only one of these was diagnosed antemortem. Included in the series were nine long bone fractures, all of which evidenced fatal fat embolism. It is probable that clinical diagnosis of this entity has not improved significantly since Warthin's day.

In general accord with Dr. Davis' remarks concerning incidence, it is interesting that in 1931 Vance⁶ concluded that three-fourths of civilian long bone fractures which proved fatal evidenced some degree of fat embolism at necropsy. Wilson and Salisbury,⁷ in a series of 1,000 battle casualties, found that the over-all mortality due to fat embolism in long bone fractures was 5 per cent. The majority of orthopedists will probably question the accuracy of such figures. The first reaction is that there is not a 5 per cent over-all mortality from long bone fractures, let alone a 5 per cent mortality attributable to fat embolism. However, every orthopedist will recall a certain number of such patients who expired unexpectedly and inexplicably from "delayed shock," "anesthetic death," unexplained "pulmonary edema," or "head injury," where only laceration of the scalp existed. "There is little doubt that many of the complications of injury, such as traumatic pneumonia, delirium, delayed shock and head injury are, in reality, fat embolism" (Robb-Smith⁸). Some men with extensive military experiences may have seen literally hundreds of long bone fractures but proper follow-up is difficult due to evacuation procedure. The average time of death from fat embolism is 53 hours following trauma.

Pathogenesis: How does fat embolism kill? As has been previously indicated, the physical state of the fat is more important than the amount for actually the blood fat is often not significantly elevated in fat embolism. Harris,⁹ experimenting with rabbits, calculated the minimal lethal human dose of fat to be 0.9 cc. per kg. when injected intravenously. However, the minimal lethal dose of hydrolyzed human fat was only 0.07 cc. per kg. It has been suggested, on the basis of this type of evidence, that damage may not be due entirely to a simple mechanical blood vessel obstruction by neutral fat but by hydrolysis of fat into fatty acids leading to blood vessel destruction, increased capillary permeability and attendant sequels of pulmonary edema and hemorrhage.

Signs and symptoms: The pulse is usually rapid but the volume remains good. Right ventricular myocardial strain may be reflected in an elevated venous pressure. Respiratory embarrassment, resulting from pulmonary vascular ob-

struction and subsequent pulmonary edema, is evident in stertorous breathing, cyanosis, moist rales and frothing at the mouth. The temperature may be elevated to 104 or 105 F., and there may be rigidity and Jacksonian seizures. Although the glomeruli are often occluded, significant compromise of the renal function does not occur.

There are certain features of fat embolism deserving special consideration. These include: (1) petechial cutaneous hemorrhages; the number has no relation to prognosis. They are usually supraclavicular and conjunctival in site, and are observed along the lower lids and posterior triangles of the neck. Recurrent attacks of petechiae may synchronize with episodes of central nervous system symptomatology. (2) Fundoscopic examination; fat globules may be seen floating in retinal vessels, but probably more commonly seen are yellowish-white glistening patches of perivascular edema or hemorrhages. (3) Lipuria; this is generally not demonstrable until 36 hours after injury. The fat floats on the top of the bladder urine and is demonstrable only in the last of the voided or catheterized specimen. This finding is most commonly encountered with the so-called cerebral type of fat embolism as contrasted with the pulmonary type and is indicative of arterial fat embolization. One may search for fat in the urine, but the usefulness of this approach is sharply limited by the considerable time interval before fat appears in the urine. Scriba found fat present in the urine of 80 per cent of his cases two to six days after trauma to bone. Unfortunately, many patients do not live this long. (4) Fat in the sputum; fat escapes by way of rupture of dilated capillaries in the lungs and may appear in the sputum before fat escapes into the systemic circulation. This approach to diagnosis was first emphasized by Warthin. (5) The presence of fat globules may occasionally be demonstrated in the serum by means of dark field microscopy. Only globules in the order of magnitude of 12 micra or larger may be considered capable of causing embolic symptoms. It should be particularly emphasized that by far the most important aid to the clinical diagnosis of fat embolism, particularly at a stage when therapy may be of some avail, is a real awareness of the existence and the importance of this process as a common complication of long bone fractures of the lower extremities.

Differential diagnosis: The principal clinical entities which should be considered in the differential diagnosis of a suspected case of fat embolism include (1) secondary shock, (2) cerebral concussion, (3) cerebral compression, (4) blast

injury, (5) crush syndrome, (6) traumatic uremia, (7) improper anesthetic technic, and (8) idiosyncrasy to anesthetic.

Prophylaxis and treatment: The most important issue in the application of prophylactic measures is that such measures must be practiced early to have value. As previously noted, three factors operate in the effective movement of fat into the venous circulation: (1) mobilization of liquid fat, (2) gaping veins and (3) the presence of local pressure. Utilizing these pathogenetic factors as a logical basis for thought, it becomes obvious that the earliest and most important prophylactic measure is one known to every Boy Scout—to immobilize the limb. Additional insults to a fracture site as a result of unnecessary jolting in an ambulance or other vehicle speeding over rough roads can often prove fatal, particularly if the immobilization is inadequate. In an age of wonder drugs and super-scientific medicine, such prosaic fundamentals are often treated with fatal indifference. Other prophylactic measures have been advocated from time to time, but little justification for their use can be adduced. Such measures include: (1) hematoma evacuation to reduce local pressure, (2) ligation of the femoral veins, (3) ligation of the thoracic duct, (4) use of sodium carbonate and bile salts (these have been used intravenously in the hope of emulsifying fat globules and thereby reducing the size of the individual droplets) and (5) saline infusions to flush out pulmonary and cerebral capillaries, unjustified because of the aggravation of pulmonary edema.

Oxygen therapy is of the utmost importance, for death occurring in fat embolism is primarily the result of hypoxia, and adequate oxygen therapy may, in the borderline case, represent the difference between success and failure, life and death. It should be remembered that adequate oxygen therapy is something more than a note on a chart calling for "nasal oxygen." Oxygen by mask, where possible, is much to be desired when maximum alveolar oxygen tension is required. Positive pressure oxygen therapy in competent hands may successfully reduce pulmonary edema, especially when the patient is young and otherwise healthy as is so often the situation. The use of helium and oxygen mixtures, if available, may be very valuable. The services of an anesthetist, if available, are ideally employed. If death does not supervene, recovery is amazingly complete, although death from fat embolism has been reported up to 25 days after trauma has been sustained.

In reviewing a typical composite case it is well to consider in retrospect how many patients we

have seen that could easily fit the following description. A typical composite patient is a young adult male who, having sustained a long bone fracture, has arrived by ambulance following a long, rough journey with inadequate limb immobilization. He is in shock but the response to plasma is good. Blood urea nitrogen is normal, and only mild anemia is present. Within three or four hours pulse and blood pressure are normal. The patient is taken to surgery where, to the surgeon's surprise and concern, he does not awaken postoperatively and dies an anesthetic death. Alternatively, death may be more delayed, and the victim returns to his room to vacillate between alternating central nervous excitation and depression synchronous with successive showers of emboli. Fever, Jacksonian seizures and muscle rigidity follow. The anesthetist bears the brunt of an inexplicable death while petechial hemorrhages blush unnoticed by the surgeon.

Discussion

Dr. R. F. Birge: Speaking in general terms, I should like to emphasize a point made by Dr. Montgomery. This evening's case exemplifies one of the clinical problems for which we have no specific wonder treatment. We must depend upon the use of supportive measures which, if judiciously used, may be life-saving; injudiciously used they may be fatal. I am inclined to agree with Dr. Montgomery that often too little attention is given to the undramatic, nonspecific supportive measures which only a few years ago constituted practically our entire therapeutic armamentarium. The effective use of oxygen therapy is a much neglected issue. We tend to take the attitude that our duty is discharged once the order for oxygen is on the chart. If, for one reason or another, the alveoli never receive the benefit of that order, somebody else is at fault.

Speaking in more specific terms I would like to raise the question, unanswerable perhaps, of the fluid therapy received by this patient. As the necropsy summary has indicated, the most important pathology noted aside from the fractures, was pulmonary edema which was attributed to fat embolism. This should not blind us, however, to the possibility that the rather considerable quantity of fluid (7,000 cc. total) administered intravenously may well have contributed to the pulmonary edema. Admittedly, the clinician often finds himself in the dilemma of treating shock with fluids and facing the possibility that those fluids may be contributing to the development of edema. Nevertheless, a thorough comprehension of the pathophysiology involved will enhance the value of his clinical judgment.

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STATE DEPARTMENT OF HEALTH

Walter L. Biering

POLIOMYELITIS IN IOWA

Jan. 1 to Aug. 14, 1949 and Jan. 1 to Aug. 13, 1950

COUNTY		CASES		COUNTY		CASES	
		1949	1950			1949	1950
Adair	3	2		Johnson	3	5	
Adams	2	0		Jones	0	1	
Allamakee	1	0		Keokuk	0	1	
Appanoose	0	0		Kossuth	1	0	
Audubon	6	1		Lee	1	7	
Benton	0	1		Linn	3	66	
Black Hawk	11	8		Louisa	0	2	
Boone	6	5		Lucas	1	1	
Bremer	1	1		Lyon	2	0	
Buchanan	2	1		Madison	2	1	
Buena Vista	1	0		Mahaska	1	1	
Butler	0	8		Marion	1	1	
Calhoun	12	2		Marshall	1	1	
Carroll	5	1		Mills	1	0	
Cass	1	1		Mitchell	0	3	
Cedar	2	1		Monona	4	1	
Cerro Gordo	9	2		Monroe	1	0	
Cherokee	1	0		Montgomery	1	0	
Chickasaw	2	4		Muscatine	1	4	
Clarke	0	0		O'Brien	2	1	
Clay	0	3		Osceola	5	0	
Clayton	5	0		Page	5	5	
Clinton	4	9		Palo Alto	3	2	
Crawford	1	0		Plymouth	3	0	
Dallas	7	2		Pocahontas	4	3	
Davis	1	1		Polk	24	28	
Decatur	2	6		Pottawattamie	16	0	
Delaware	3	1		Poweshiek	1	1	
Des Moines	4	2		Ringgold	0	2	
Dickinson	1	0		Sac	6	2	
Dubuque	42	4		Scott	4	8	
Emmet	0	0		Shelby	5	1	
Fayette	1	2		Sioux	4	3	
Floyd	1	0		Story	8	33	
Franklin	5	2		Tama	2	6	
Fremont	0	0		Taylor	5	1	
Greene	7	2		Union	0	1	
Grundy	1	4		Van Buren	0	26	
Guthrie	21	0		Wapello	2	1	
Hamilton	2	4		Warren	0	1	
Hancock	2	1		Washington	2	7	
Hardin	14	5		Wayne	1	11	
Harrison	8	1		Webster	14	4	
Henry	0	5		Winnebago	1	0	
Howard	3	0		Winneshiek	2	4	
Humboldt	4	3		Woodbury	10	2	
Ia	1	0		Worth	4	1	
Iowa	4	1		Wright	3	7	
Jackson	0	2					
Jasper	2	3		Total	371	355	
Jefferson	0	0					

The increase of poliomyelitis continues to follow the trend of last year but the rate of increase since the third week of July has been less marked. With 81 counties having reported cases this year as opposed to 73 at the same time last year, attack rates are high in fewer counties this year.

The shift in case incidence to the east central, the eastern and the southern parts of the state continues to be noted.

CHANGE IN ISOLATION PERIOD FOR POLIOMYELITIS

Effective August 1, the Iowa State Board of Health decreased the length of the isolation period for the case of poliomyelitis in Iowa from 14 to 7 days. This change, in keeping with the trend of policies of other states, was sponsored by the Medical Committee of the State Poliomyelitis Planning Committee.

DES MOINES AND POLK COUNTY VENEREAL DISEASE EDUCATION CAMPAIGN

KNOCK OUT V. D.

The week of August 7 to 13 and through the Iowa State Fair was selected as the period during which a concentrated educational program designed to reduce the incidence of venereal disease will be conducted in Polk County. A recent United States Public Health Survey made in Des Moines showed an excellent rating as to prevalence of professional prostitution. Local workers in social hygiene, however, insist that there is great need for educational work in an effort to reduce the spread of diseases through promiscuity and lack of appreciation of the results of improper social hygiene.

Since last spring a special committee of the Health Division of the Council of Social Agencies had been working on plans. The program had the approval of the Polk County Medical Society. The Committee on Public Health of the Society served in a consulting capacity. The City Health

POLIOMYELITIS IN IOWA, SUMMARY BY WEEKS

Cases January through June 25, 1949.....	37
Week ending July 2, 1949.....	4
Week ending July 9, 1949.....	8
Week ending July 16, 1949.....	30
Week ending July 23, 1949.....	45
Week ending July 30, 1949.....	83
Week ending Aug. 6, 1949.....	84
Week ending Aug. 13, 1949.....	81
Total through August 13.....	371

January through June 24, 1950.....	70
Week ending July 1, 1950.....	7
Week ending July 8, 1950.....	18
Week ending July 15, 1950.....	38
Week ending July 22, 1950.....	42
Week ending July 29, 1950.....	62
Week ending Aug. 5, 1950.....	46
Week ending Aug. 12, 1950.....	72
Total through August 12.....	355

Department and the State Department of Health, as well as other public health agencies, were sponsors and provided personnel to carry out the program. Funds were made available by the State Department of Health.

The policy of the committee was to guide people to their family physician for any tests and treatment. Blood-letting stations were maintained at Wilkie House, Roadside Settlement and possibly at two or three rural points at special hours. The name of a physician or an established clinic to which a report may be referred was obtained from each person so tested. Each such center was under approved medical supervision. Report of findings went to the patient's physician or established clinic. No report was made to the patient. It was the physician's responsibility to advise his patient if any care is indicated.

Supplies of approved pamphlets, bumper strips, adhesive strips and films were stock-piled. Arrangements were made for cooperation of radio and press, cab companies and other advertising media. Some mailing meters carried a slug, KOVD, during the week. Sidewalk insignia was approved. Boy Scouts assisted in distribution of posters and pamphlets.

STATE LABORATORY ANNOUNCES NEW SEROLOGIC TEST FOR SYPHILIS

As of July 1, the State Hygienic Laboratory initiated the F.P.M. (filter paper microscopic) method devised by the United States Public Health Service for the diagnosis of congenital syphilis in infants. This procedure is not a substitute for the whole blood obtained by venipuncture and must be restricted to babies from whom it is difficult to secure adequate specimens otherwise. Special perforated filter paper strips for collecting the specimens are available upon request to the laboratory.

Procedure

1. With pencil place name of patient on plain end of paper strip. Fill out data card completely.
2. Clean finger, toe or heel thoroughly with alcohol or ether.
3. Puncture selected area with stylet or Bard-Parker blade inserted through a cork to insure an even adequate flow of blood without squeezing. Wipe away first drop of blood.
4. The paper strip should be evenly and completely saturated by drawing the paper through the blood pool.
5. Place between the layers of a paper towel, blot excess blood and allow to remain there until completely dry.
6. Mail specimen and data card in an envelope to laboratory with the least possible delay.

Although this test is undergoing evaluation, it is very unlikely that cases of active syphilis in infants would be missed by this procedure. If the first test is reported as negative and there are suspicions of syphilis repeat at monthly intervals on at least two occasions. The test lends itself to quantitative as well as qualitative interpretation with equal degrees of accuracy.

MORBIDITY REPORT

Disease	July '50	June '50	July '49	Most Cases Reported From These Counties:
Diphtheria	1	0	2	Scott
Scarlet Fever	9	26	13	Dubuque, Linn
Typhoid	0	0	0	.....
Smallpox	0	0	0	.....
Measles	109	547	119	Des Moines, Fayette, Scott
Whooping Cough, 226	131	33	Jones, Black Hawk, Polk	
Brucellosis	34	23	96	Benton, Calhoun, Frank- lin, Ida, Wapello, Pot- tawattamie, Wayne, (2 cases each)
Chickenpox	87	222	64	Dubuque, Johnson, Linn
Influenza	0	0	0	.....
Meningitis meng..	6	4	5	Black Hawk, Franklin, Harrison, Linn, Mont- gomery, Wapello, (1 case each)
Mumps	50	159	137	Black Hawk, Johnson, Story
Pneumonia	2	3	6	Kossuth, Wapello
Poliomyelitis	167	21	170	Linn (39), Story (25), Van Buren (22), Polk (12)
Rabies in Animals	34	35	19	Polk (16), Story (13), Harrison (2)
Tuberculosis	47	55	105	For the state
Gonorrhea	73	50	77	For the state
Syphilis	183	121	205	For the state

DISTRICT COUNCILOR MEETINGS

- Sept. 5 First councilor district meeting at Hotel Mealey, Oelwein.
- Sept. 6 Third councilor district meeting at the American Legion Building, Sutherland.
- Sept. 13 Eighth councilor district meeting at Hotel Burlington, Burlington.
- Sept. 19 Second councilor district meeting at Hotel Hanford, Mason City.
- Sept. 21 Ninth councilor district meeting at Country Club, Centerville.
- Sept. 22 Tenth councilor district meeting at North Side Cafe, Winterset.
- Oct. 3 Sixth councilor district meeting at Country Club, Marshalltown.
- Oct. 11 Fifth councilor district meeting at Holst Hotel, Boone.

GP POSTGRADUATE COURSE

The Iowa Academy of General Practice will hold a one day postgraduate course September 14 at the Hotel Savery in Des Moines. The course is designed to include phases of otolaryngology and pediatrics. Doctors interested in general practice are urged to attend.

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Doctor Draft Legislation

During the past six weeks the need for military medical officers has become more acute. It is no longer any secret that the Army, Navy and Air Force will need hundreds, perhaps thousands, of additional medical officers in the very near future.

Sources of these future requirements include the largest potential group consisting of former Navy V-12 and Army ASTP medical students who had all or part of their education financed by the federal government but were not required to serve on active duty because of the termination of World War II. There are more than 8,000 physicians and dentists in this group who still have served no time on active duty. If these men could be induced to volunteer at the present time, they would, in large measure, meet the medical requirements of about two million troops.

A second source are men deferred from the draft to complete their medical educations at their own expense during World War II.

The third and much smaller group of potential volunteers is composed of physicians who, for several years after the end of the war, were assigned to residencies and internships on active duty status, but who were allowed to leave the service immediately upon completion of their training.

A fourth group consists of physicians who were declared essential during World War II.

At the present time medical officers who volunteer receive an additional \$100 per month; this

is not allowed if the men are called upon mandatory orders.

Because of the hesitancy of physicians to volunteer their services, fast developments in Washington point toward early action on bills designed to draft doctors who have had little or no active duty. In making selections an attempt will be made to make every effort to enlist the cooperation of established medical societies in drafting the services of physicians.

It would appear appropriate at this time that medical societies make some attempt to see that physicians declared essential should consist of veterans of World War II, allowing doctors who have never served on active duty with the armed forces an opportunity to fulfill this obligation. Both the Army and Navy have announced that certain reserve officers will be called to duty to process inductees and reservists who have been recalled. It is not too late for physicians to volunteer their services at this time and avoid an obligatory draft.

The 1951 Annual Meeting

The 1951 Annual Meeting of the Society will be held April 23-26 in Sioux City's new Memorial Auditorium. Hotels available for reservations are the Martin, Warrior and Mayfair.

Officers of the Society have made several trips to Sioux City to make preliminary plans and it is not too soon to say that the meeting promises to be an excellent one. The building is beautiful and will lend itself well to the peculiar type of housing needed for the medical meeting. There will be ample space on the ground floor for technical exhibits, two of the smaller section meeting rooms and the contemplated hobby show. It may be possible to have the banquet there, although the location of the scientific exhibits may interfere. The main arena floor will house the general session room, a larger section meeting place and the scientific exhibits. Suitable smaller rooms are available for committee meetings and hearings.

Any county medical society would find it difficult to equal the hospitality exhibited by the Des Moines County Medical Society at the Burlington meeting last April. The Woodbury County Medical Society not only appreciates that courtesy but acknowledges it will try to live up to the high standard set by its predecessor.

The program committee has held a preliminary meeting to map the general outlines of the session. It will hold its second session in September to complete plans as nearly as possible.

The Sioux City Chamber of Commerce has been most helpful and cooperative in everything

connected with the meeting. They and the Woodbury County Medical Society are determined that the 1951 meeting, the first in our second hundred years, will be one of the best ever held. Plan now to attend.

Motion Sickness

Dramamine has been hailed as an important therapeutic agent in controlling the unpleasant symptoms associated with motion sickness. Commercial airlines usually have a supply of this drug on board for the use of passengers. Accumulated data support the use of this drug in the prevention and control of all forms of motion sickness.

Dramamine is not always completely effective, however, and its use has been disappointing to at least one medical officer on a naval transport.* He reported that two departures from port in the Atlantic this winter were accompanied by a sickening pitching of the ship, heading into wind and sea. In spite of the fact that dramamine had been dispensed in suitable quantities to passengers at least two hours before getting underway and before the preceding meal, the incidence of motion sickness accompanied by nausea and vomiting was as bad or worse than had ever been experienced in the memories of the transportation personnel on his vessel.

The most often noted effect of dramamine is a profound drowsiness that demands sleep. Another effect is a sort of lightheadedness or drunkenness with disturbance of the sense of balance.

The medical officer concluded that whereas at first he had high regard for the effectiveness of dramamine, he has since, after putting it to additional test, lost faith in it. He stated that it does have a sedative effect.

Although the conclusion reached may not be concurred in by others, the experience on this ship will serve to discourage over-confidence in the efficacy of this drug to prevent symptoms of motion sickness.

Our Iowa Congressmen Stick With Us

Last August the Senate of the United States defeated Reorganization Plan No. 1, a proposal which provided for the creation of a Department of Welfare with cabinet status from the framework of the Social Security Agency. Both of our Iowa Senators, Mr. Hickenlooper and Mr. Gillette, voted in disapproval of the plan, thus helping defeat it. At that time we of the State

Society told them how much we appreciated their support of our position on this plan.

Far from giving up hope, the administration again sought to attain its objectives by Reorganization Plan No. 27 which would have elevated the Federal Security Agency to a cabinet-rank Department of Health, Education and Security. This was voted on by the House of Representatives July 10 and again was defeated, this time by a vote of 249 to 71. All eight of the Iowa Congressmen voted to defeat this proposal, thus supporting us in our opposition to the plan.

We in Iowa are very fortunate in having representatives and senators in Washington to whom we may explain our position and upon whose support we can count if, in their opinion, our stand is right. We have never felt that we have any right to ask our representatives to vote as we wish; we have always gone upon the premise that we would appreciate the opportunity to talk over legislation with them and tell them where we stood, asking them to vote with us if they felt we were justified. Certainly we physicians in Iowa cannot ask for better cooperation nor more friendly relations than now prevail between ourselves and our present delegation in Washington.

Socialized Medicine

It is a curious thing how, whenever demand outruns supply for a short time, there is always someone ready to play politics with the desires or needs of the people. It is a despicable thing when people will capitalize with cynical cruelty on the ills of people.

In a recent statement, Democrat National Committee Chairman William M. Boyle, Jr., viewed with great alarm the American Medical Association's announced intention of spending \$1,100,000 to fight the Administration's program for "socialized medicine."*

But he blithely assured his readers that the program which the Trumanites call "National Health Insurance" would cost the American family only about \$48 a year. That estimate, of course, is patently untrue.

There are about 40 million families in this country. At \$48 per family, the socialized medicine program would net something under \$2,000,000,000. With a similar contribution from employers, which incidentally will be passed along to the public in higher prices, there would be only \$4,000,000,000 in the kitty.

The Senate Committee on Expenditures in the Executive Department has estimated conserva-

(Continued to page 470)

*United States Navy Medical News Letter, xvi:23-24 (August 4) 1950.

**"This Is the News," Republican National Committee.

NEWS NOTES

from the

Committee on Medical Service and Public Relations

MEDICAL-PRESS-RADIO CONFERENCE

The second annual Medical-Press-Radio Conference, sponsored by the Committee on Medical Service and Public Relations, will be held in Des Moines September 8 at Hotel Fort Des Moines. All doctors are invited.

PROGRAM

- 9:30 a.m. Registration
- 10:00 a.m. Address of Welcome—
Thomas F. Thornton, M.D., Waterloo, President
Iowa State Medical Society
Moderator
Donald C. Konzett, M.D., Dubuque, President-elect
Iowa State Medical Society
- 10:15 a.m. What the Atomic Bomb Did to Hiroshima
Mr. Richard H. McCleery, Washington, Iowa
- 11:00 a.m. Medical Aspects of Civilian Defense—
John W. Ferguson, M.D., Newton, Chairman
Committee on Emergency Medical Service
- 11:15 a.m. Atomic Energy as It Relates to Medicine—
Brig. General James P. Cooney, M.C., Washington,
D. C., Chief, Radiology Branch, Division of Military Application, Atomic Energy Commission
Luncheon
- 1:30 p.m. How Our Grievance Committee Functions—
E. M. Kersten, M.D., Fort Dodge, Chairman
- 1:45 p.m. Placement of Physicians in Rural Areas—
Allan B. Phillips, M.D., Des Moines, Secretary, Iowa State Medical Society
- 2:00 p.m. Advances in Medical Science and How They Affect Our People—
William B. Bean, M.D., Iowa City, Professor and Head of Internal Medicine, State University of Iowa College of Medicine
- 2:15 p.m. Expansion of Voluntary Insurance—
Mr. Thomas A. Hendricks, Chicago, Secretary, Council on Medical Service, American Medical Association
- 3:00 p.m. Code of Cooperation—Panel Discussion
The Physician's Legal Responsibilities to His Patient—
Mr. Irving W. Myers, Des Moines
Views of the Iowa Radio News Editors' Association—
Mr. Jack Shelley, Des Moines
Views of a Newspaper Editor—
Mr. Harry C. Mauck, Jr., Managing Editor, *Nonpareil*, Council Bluffs
Views of the Medical Profession—
Fred Sternagel, M.D., West Des Moines, Chairman, Committee on Medical Service and Public Relations
Views of Television—
Mr. Richard B. Hull, Director, WOIT-TV, Iowa State College
- 4:00 p.m. Open Discussion

W. Myers, Legal Counsel; Don Taylor, Field Secretary, Iowa State Medical Society; Mr. Gene Godt and Mr. Charles McCuen, Iowa Radio News Association; Mr. Donald Cordes and Mr. Herb Krauss, Iowa Hospital Association, and Mr. Harry Mauck, Managing Editor, *Council Bluffs Nonpareil*.

This group met to draft a minimum code of cooperation between doctors of medicine, hospitals and newsmen. A suggested code was presented by the representatives of the Iowa Radio News Association. After considerable deliberation and some revisions in the cooperation proposal, the code was accepted by the group. This acceptance did not represent an endorsement by all of the groups represented, but merely cleared the way for each division to present the code to its society or association.

It is the plan of the Committee on Medical Service and Public Relations to introduce the code at a meeting of the Executive Council to be held September 7 in Des Moines. The action taken by the council will be announced at the Medical-Press-Radio Conference the following day. Copies of the suggested code are now being prepared for distribution to all members of the organizations interested in the code. The Society plans to complete its mailing before September.

All physicians who plan to attend the Medical-Press-Radio Conference are urged to study the code and to bring it along so that it can be discussed following the Code of Relations panel.

MINIMUM CODE OF COOPERATION

A minimum code of relations between doctors of medicine, hospital officials and Iowa newsmen was the subject of discussion at a meeting held August 16, at the Des Moines Club in Des Moines. The meeting was called by Dr. Otto Glesne, of Fort Dodge, Chairman of the Sub-committee on Public Information of the Committee on Medical Service and Public Relations. Those attending were: Dr. Fred Sternagel, of West Des Moines, Chairman of the Committee on Medical Service and Public Relations; Dr. Otto Glesne, of Fort Dodge, sub-committee chairman; Dr. Otis Wolfe, of Marshalltown, Chairman of the Council; Mr. I.

DOCTOR'S SECRETARY MEETINGS

The field staff of the Iowa State Medical Society, in cooperation with Iowa Medical Service (Blue Shield), plans to begin another series of Doctor's Secretary Meetings this fall. These meetings will be held at the request of the county medical societies. Their purpose is to familiarize the doctor's office personnel with Blue Shield provisions and the method of reporting claims. Projects of the State Medical Society will also be discussed at these sessions. We urge all county medical societies to make a request for these meetings.

President's Page

The House of Delegates at the April meeting authorized the formation of a Grievance Committee to which could be submitted complaints or misunderstandings concerning medical services. Membership of the committee was chosen from nominees of each councilor district.

The first meeting of the committee was held in June at which time officers were elected and a plan of procedure adopted. It was decided that the committee should meet in Des Moines the last Sunday of each month. It was also decided that a regular form should be prepared so that when a letter is received by the secretary of the committee, he can send this form to the complainant and ask him to fill it out and return it for consideration.

The committee is thus achieving a pattern for handling these matters. It reports that a number of claims have already been settled and that others are in the process of solution.

Newspaper publicity over the state has been most favorable to the idea. Without dissent the editors have commended the State Society for providing this committee to which disputes and misunderstandings may be referred.

At the present time the committee is concerned over wider publicity of its activities. A letter is being sent to all county societies to bring them up to date on what has been done, and in the near future some action will be taken to bring the work of the committee more clearly before the public.

All states having grievance committees report that they have been very well received and have brought about a much friendlier feeling between the public and the medical profession. Our Iowa committee has already proved it is willing and anxious to serve as arbitrator and we feel confident it, too, will achieve a large measure of success.

T. F. Thornton, M. D.

President, Iowa State Medical Society

SPEAKERS BUREAU

HAROLD MARGULIES, M.D., *Chairman*

JOHN I. MARKER, M.D., Davenport

CHARLOTTE FISK, M.D., Des Moines

CAMPBELL F. WATTS, M.D., Cedar Rapids

ARTHUR D. WOODS, M.D., State Center

RUSSELL M. WOLFE, M.D., Marshalltown

GERALD F. KEOHEN, M.D., Dubuque

POLICY CHANGE

The ever-increasing activities of the Speakers Bureau have necessarily placed a great financial burden on the State Society. One of our largest increases in expense has come about as a result of the many county society meetings for which we have provided speakers. The custom has been for the Bureau to assume payment of these speakers' expenses.

The Board of Trustees, in recognition of the need for greater economy, has agreed that certain expenses would be best borne by the individual county societies. The Speakers Bureau will continue to make all arrangements as in the past but the actual traveling expenses of the speaker will be provided by the county society.

CANCER INSTITUTES

Arrangements are now being completed for the fall series of cancer institutes. You will recall that these are sponsored by the Cancer Division of the State Department of Health and the Iowa Division of the American Cancer Society. This is the fourth year for these programs.

The Speakers Bureau has attempted to obtain men from various medical centers such as the Mayo Clinic and from medical schools in Iowa, Wisconsin, Kansas and Minnesota. The purpose of these institutes is to give something that can be carried over into everyday work. Early recognition and diagnosis are again being stressed in order that both the general practitioner and the specialist may profit from the institute.

The program will have four speakers, each presenting a 45 minute talk, followed by a question period. The programs begin at 4 p.m., with two talks before dinner and two following. The dinner is complimentary and is being provided by the Iowa Division of the American Cancer Society, while the expenses and honorariums of the speakers are being taken care of by the State Department of Health. Consequently, there is no charge for either the dinner or the lectures to the county society sponsoring the institute or the doctors attending.

Announcements will be mailed individually prior to the institutes, but check now to find one in your area and plan to take advantage of these programs.

Carroll

Thursday, Sept. 7

James M. Tierney, M.D., Program Chairman
Cancer of the Uterus
Earl C. Sage, M.D., Omaha, Nebr.

Cancer of the Skin
Cleveland J. White, M.D., Chicago, Ill.
Common Bone Malignancies
J. M. Janes, M.D., Rochester, Minn.
X-Ray Therapy in Carcinomas
James T. McMillan, M.D., Des Moines

Waterloo

Tuesday, Sept. 19

Frederic G. Loomis, M.D., Program Chairman
Cancer of the Stomach
Edward R. Woodward, M.D., Chicago, Ill.
Cancer of the Uterus
Charles McCartney, M.D., Chicago, Ill.
Cancer of the Skin
Richard J. Steves, M.D., Des Moines
Cancer of the Lung
Joseph W. Gale, M.D., Madison, Wisc.

Washington

Wednesday, Sept. 20

C. A. Boice, M.D., Program Chairman
Cancer of the Breast
Donovan F. Ward, M.D., Dubuque
The Extension of the Radical Operation for Cancer
Nathan A. Womack, M.D., Iowa City
Radiation in the Treatment of Cancer
Titus C. Evans, M.D., Iowa City
Common Malignant Diseases of the Blood Stream
Speaker not yet scheduled.

Dubuque

Thursday, October 19

Donovan F. Ward, M.D., Program Chairman
Cytologic Studies in the Diagnosis of Carcinomas
Speaker not yet scheduled.
Carcinoma of the Prostate
Laurence F. Greene, M.D., Rochester, Minn.
Radiation in the Treatment of Malignancies
Higdon B. Elkins, M.D., Iowa City
The Physician's Responsibility in Malignant Diseases
Harold Margulies, M.D., Des Moines
Another institute is scheduled for Sioux City on Tuesday, October 17. Plans for this meeting are still tentative.

HEART AND CHEST INSTITUTES

At the present time plans are being completed for heart and chest institutes to be held in Sioux City, Mason City, Cedar Rapids and Spencer. These institutes are set up on the same basis as the cancer institutes.

Spencer

Wednesday, Sept. 20

Frank Edington, M.D., Program Chairman
Bronchiectasis
Johann L. Ehrenhaft, Iowa City
Hypertensive Heart Disease
Chester M. Kurtz, M.D., Madison, Wisc.
Curable Forms of Heart Disease
Lewis E. January, M.D., Iowa City
Cancer of the Lung
Thomas J. Kinsella, M.D., Minneapolis, Minn.

POSTGRADUATE COURSES

The following postgraduate lectures are evening symposiums which are given weekly or bi-weekly over a four to six week period. They are financed by the doctors attending and represent our effort to present adequate postgraduate work to physicians in the manner most convenient for them and at a minimum cost. This year courses have been arranged

(Continued to page 470)

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

HANDBOOK OF PHYSIOLOGY AND BIOCHEMISTRY—by *R. J. S. McDowall*, M.D., D.Sc., M.R.C.P., Professor of Physiology, University of London, King's College. The Blakiston Co., Philadelphia, 1950. Price \$7.00.

THE MASK OF SANITY—by *Hervey Cleckley*, M.D., Professor of Psychiatry and Neurology, University of Georgia School of Medicine, Augusta, Ga. The C. V. Mosby Co., St. Louis, 1950. Price \$6.50.

MEDICAL DIAGNOSIS—APPLIED PHYSICIAN DIAGNOSIS—edited by *Roscoe L. Pullen*, M.D., F.A.C.P., Professor of Graduate Medicine, Director of the Division of Graduate Medicine and Vice Dean of the School of Medicine, Tulane University of Louisiana at New Orleans; Consultant in Medicine, Veterans Administration Hospital, New Orleans; Consultant to the Surgeon General, Department of the Army, Washington, D. C. The W. B. Saunders Co., Philadelphia, 1950. Price \$12.50.

PHYSICIAN'S HANDBOOK—by *Marcus A. Krupp*, M.D., Assistant Clinical Professor of Medicine, Stanford University School of Medicine; Director, Clinical Pathology, Veterans Administration Hospital, San Francisco; *Norman J. Sweet*, M.D., Assistant Professor of Medicine, University of California School of Medicine, San Francisco; *Ernest Javetz*, Ph.D., M.D., Associate Professor of Bacteriology and Lecturer in Medicine and Pediatrics, University of California School of Medicine, San Francisco; and *Charles D. Armstrong*, M.D., Clinical Instructor of Medicine, Stanford University School of Medicine. University Medical Publishers, Palo Alto, Calif., 1950. Price \$2.50.

PHYSIOLOGY IN DISEASES OF THE HEART AND LUNGS—by *Mark D. Altshule*, M.D., Assistant Professor of Medicine, Harvard Medical School; Visiting Physician and Research Associate, Beth Israel Hospital; Director of Internal Medicine and of Research in Clinical Physiology, McLean Hospital. Harvard University Press, Cambridge, Mass., 1950. Price \$5.00.

PLASTIC AND RECONSTRUCTIVE SURGERY, A Manual of Management—by *Ferris Smith*, M.D., F.A.C.S., Con-

sultant in Plastic Surgery, Blodgett Memorial Hospital, Grand Rapids, Mich. W. B. Saunders Co., Philadelphia, 1950. Price \$15.00.

PRACTICAL GYNECOLOGY—by *Walter J. Reich*, M.D., F.A.C.S., F.I.C.S., Attending Gynecologist, Cook County Hospital; Professor of Gynecology, Cook County Graduate School of Medicine; Attending Gynecologist, Fantus Clinic of the Cook County Hospital; Assistant Professor of Gynecology, Chicago Medical School; Attending Gynecologist and Obstetrician, Grand Hospital; Attending Gynecologist, Fox River Tuberculosis Sanatorium; Consulting Gynecologist, Hazelcrest General Hospital; and *Mitchell J. Nechtow*, M.D., Associate Attending Gynecologist, Cook County Hospital and the Fantus Gynecologic Clinic; Assistant Clinical Professor of Cook County Graduate School; Associate in Gynecology and Obstetrics, Chicago Medical School; Attending Gynecologist and Obstetrician, Norwegian-American Hospital. J. B. Lippincott Co., Philadelphia, 1950. Price \$10.00.

TECHNIQUES IN BRITISH SURGERY—edited by *Rodney Maingot*, F.R.C.S. W. B. Saunders Co., Philadelphia, 1950. Price \$15.00.

A TEXTBOOK OF X-RAY DIAGNOSIS—edited by *S. Cochran Shanks*, M.D., F.R.C.P., F.F.R., Director, X-Ray Diagnostic Department, University College Hospital, London; and *Peter Kerley*, M.D., F.R.C.P., F.F.R., D.M.R.E., Director, X-Ray Department, Westminster Hospital; Radiologist, Royal Chest Hospital, London. W. B. Saunders Co., Philadelphia, 1950. Price \$15.00.

A TEXTBOOK OF GYNECOLOGY—by *Arthur Hale Curtis*, M.D., Emeritus Professor and Chairman of the Department of Obstetrics and Gynecology, Northwestern University Medical School; Formerly Chief of Gynecological Service, Passavant Memorial Hospital, Chicago; and *John William Huffman*, M.D., Associate Professor of Obstetrics and Gynecology, Northwestern University Medical School; Attending Gynecologist, Passavant Memorial Hospital, Chicago. W. B. Saunders Co., Philadelphia, 1950. Price \$10.00.

BOOK REVIEWS

Current Therapy, 1950: Latest Approved Methods of Treatment for the Practicing Physician, edited by *Howard F. Conn*, M.D. (W. B. Saunders Co., Philadelphia, \$10.00). This book represents the combined efforts of over 250 authorities, each of whom has presented his treatment in outline, but yet complete form, for a disease of his specialty. In those instances where the opinion on therapy varies, more than one regimen is outlined. All of the fields of general medicine are covered, including a section on obstetrics and gynecology. Only therapy is discussed and all of the more recent accepted advances are included. However, as is true with most books, some of the information is already out-dated. This is especially true concerning the rapidly changing subject of antibiotics.

In general, this publication represents a valuable aid to the general practitioner and specialists in all fields whereby they can quickly review the current thoughts on therapy of an authority on the subject in question. For comprehensive reviews of therapy and information on the more experimental aspects, other sources will have to be sought.—N. G. Hepper, M.D.

Life Among the Doctors, by *Paul de Kruif*, (Harcourt, New York, \$4.75). In this book Mr. de Kruif has summarized many of the revolutionary changes of the past ten years in the field of medicine. He discusses the work of C. C. Young, Tom Spies, Herman N. Bundesen, Alvin F. Coburn, Leo Loewe, Herman Kabat and many other recent medical leaders. Their work has been dramatized in very readable fashion and holds interest for lay and professional readers alike.—E. M. George, M.D.

Physiology of Heat Regulation and the Science of Clothing, edited by *L. H. Newburgh*, M.D. (W. B. Saunders Co., Philadelphia, \$7.50). This volume is a summation of scientific data developed at the request of the Division of Medical Sciences, National Research Council. The studies were under the auspices of five governmental agencies, including the Aeromedical Laboratory of the Army Air Force and the Climatology and Environmental Section of the Office of the Quartermaster General. Detailed scientific measurements are presented on human response to all climatic environments ranging from desert conditions to immersion in cold ocean water. Simi-

larly careful studies are recorded on the physical properties of clothing fabrics. Principles are discussed, based on the foregoing data, which led to the development of effective clothing for the armed forces. To the practicing physician the chapters on "The Regulation of Body Temperatures" and the "Physiological Adjustments to Heat" are the most resourceful.—H. H. Smead, M.D.

A Primer for Diabetic Patients, An Outline of Treatment for Diabetes with Diet and Insulin by *Russell M. Wilder*, M.D. (W. B. Saunders Co., Philadelphia, \$2.25) is the ninth edition of a compact book written both for the physician and the patient. It is written in plain language so as to be understood by the average patient and covers all phases of diabetic management. Especially valuable are the directions for the patient at times when complications are possible or else have already developed. The section on diet is complete with considerable choice of foods so that monotony can be eliminated. For the physician there is a concise plan for treatment of diabetic acidosis as well as advice on practical aspects of dietary management. Every diabetic and every physician who handles diabetics will benefit by reading this book.—E. R. Posner, Jr., M.D.

Saw-Ge-Mah (Medicine Man), by *Lewis J. Gariepy*, M.D. (Northland Press, Saint Paul, \$3.00). Dr. Gariepy has woven a story in which he has illustrated the progress of a physician from his original environment in a lumber town, medical school and general practice. All physicians will find this story of interest. The lay reader will also obtain a better insight into the problems facing the physician in his preparation in the practice of medicine.—E. M. George, M.D.

Electrocardiography—Fundamentals and Application, by *Louis Wolff*, M.D. (W. B. Saunders Co., Philadelphia, \$4.50). Dr. Wolff has written a most unique and valuable text on electrocardiography. The information is clearly presented and represents a source of material difficult to find without consulting many of the original papers of Dr. Frank N. Wilson and associates. The first part of the book deals with the electrical phenomena which are associated with the activation and recovery process of the myocardium, the knowledge of which is basic to the subject. In the second part of the book, these basic principals are applied to the interpretation of tracings. Only those conditions are covered which alter the activation or recovery phase of ventricular muscle and hence the arrhythmias have been omitted. This is no great loss since this aspect of the subject is well discussed in almost any of the older textbooks. Electrocardiography is no longer an empirical subject and this text will be a valuable aid in understanding the advances in the field in recent years. It can be strongly recommended.—L. E. January, M.D.

The Ethical Basis of Medical Practice, by *Willard L. Sperry* (Paul B. Hoeber, Inc., New York, \$2.50). It may seem unusual for the dean of a divinity school to discuss a subject of such interest to physicians. Nevertheless, the author has done well with his subject. Physicians will find interesting discussions of such problems as relationship of specialist and general practitioners, telling the truth to the patient, euthanasia and the reverence of life. He has avoided the ethics of birth control, artificial insemination and vivisection for his own good reasons. This book is recommended for the library of every physician.—E. M. George, M.D.

Histology and Histopathology of the Eye and Its Adnexa, by *I. G. Sommers*, M.D. (Grune & Stratton, New York). A good brief pathology of the eye in English has long been needed and Dr. Sommers' recent book is the nearest approach to the ideal. This book of 784 pages consists of a brief review of normal histology, embryology and senescence in the first 56 pages and the remainder is devoted to general pathology and histopathology of the eye. Of special interest to ophthalmic surgeons is the final section on the histopathology of surgery of the eye and its complications.

The format of the book is unusual in that the bibliographies are placed at the end of each subdivision, unnumbered and without numbers in the text, but arranged in the same order as the material in the text. Another innovation is the grouping of the source material, which is usually presented in fine print after each section, into large compilations at the end of each subdivision, preceding the respective bibliography. The book is recommended to all ophthalmologists and pathologists.—A. H. Downing, M.D.

Psychiatric Sections in General Hospitals, by *Paul Hawn*, M.D. (Dodge Corp., Garden City, New York, \$4.00). This book, which is available in the Iowa State Medical Library, will prove helpful to any hospital board considering the incorporation of a psychiatric unit in their building program. Much time and thought has been expended in various arrangement possibilities and detailed plans are included.—E. M. George, M.D.

Anxiety in Pregnancy and Childbirth, by *Henriette R. Klein*, M.D., *Howard W. Potter*, M.D., and *Ruth B. Dyk* (Paul B. Hoeber, Inc., New York, \$2.75). This monograph represents a report on a study of primiparous patients, their personality make-up and cultural background, with emphasis on their total reactions and behavior throughout the pregnancy. The study reflects many of the reactions seen but not usually tabulated in any practice. The study represents patients of a marginal social and economic status; consequently, the conclusions may not be applicable to the average office patient.

The monograph should certainly be of interest to any physician or social psychologists who may be concerned with the care of the patient and her problems during pregnancy.—M. E. Alberts, M.D.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. CLAIRE H. MITCHELL, Indianola

President-Elect—MRS. HOWARD W. SMITH, Woodward

Secretary—MRS. RALPH J. SELMAN, Ottumwa

Treasurer—MRS. DWIGHT C. WIRTZ, 449-56th St., Des Moines

LINES FROM THE PRESIDENT

Now is the time of the year when every Auxiliary member should be making plans to increase her usefulness in our organization during the coming months. Therefore, it seems appropriate for the state Board members of 1950-51 and myself to extend sincere greetings to all of our members. Our wish for them is that they may have an active and successful year whether on a community, county or state level.

In accepting the presidency of the Woman's auxiliary to the Iowa State Medical Society, I am deeply impressed with the honor, yet at the same time I am fully aware of the responsibilities which go with this high office. I earnestly hope for the strength of mind and body which will justify your confidence in my ability to meet the obligations imposed upon me as the leader of your Auxiliary during the coming year. In return, I frankly wish and ask each one of you to give the Board of Directors and myself the same cooperation and loyalty which you have so generously given in the past.

Our aim as Auxiliary members is to find out where we are the most needed and where we can do the most good to promote and carry out the ideas of the medical profession. If we do this, we have the true Auxiliary spirit and can feel assured that we are bearing our share of responsibility. My hope is that all of us will work together so effectively that next April the mutual feeling will be, that our year's work has been "Time not lost, but profitably employed."

One of my first privileges was to be one of the eight delegates to represent Iowa at the Annual meeting of the Auxiliary to the AMA. It was an inspiration to meet with so many women with a common interest. The main emphasis was to promote good citizenship.

To learn that your state is in good standing with the other states of the union is always one of satisfaction. Iowa compared favorably. Each state has such different interests and activities which explains the strength of the whole, the Auxiliary to the AMA. It is a composite of the 48 state Auxiliaries, as Iowa is a composite of the county Auxiliaries. Our state Auxiliary will be stronger as we erase the "red dots" and make it 100 per cent county Auxiliaries organized. It is not just "another organization," but a group of women with a definite piece of work to do.

Mrs. C. H. Mitchell, President.

PUBLIC RELATIONS MEETING

The meeting on Public Relations and Legislation was held at the Hotel Fort Des Moines July 19, 1950. President Mrs. C. H. Mitchell announced that district meetings will be held in the fall so that essential information may be obtained on the local level. The first of these meetings was scheduled for August 15. Dates for other meetings will be announced later.

Dr. James E. Reeder of Sioux City, advisor to the Auxiliary, presided. He showed how cancerous Social Security can become when leaders of 14 million workers are currently demanding total security without corresponding productivity. Medicine might be only the opening wedge in total state control.

Mr. Don Taylor spoke of the continued need for resolutions against compulsory health insurance and of the prospective advertising and broadcasting program of the American Medical Association.

Mrs. Theodore Heinz of Greeley, Colo., Public Relations Chairman of the Woman's Auxiliary to the American Medical Association, contributed much to the meeting in her earnest plea that members become educated on issues pertaining to medicine; that they work persistently in organizations to which they belong to inform others; that they check on registration and see that people vote. She recommended efforts toward nurse recruitment by means of scholarships, use of the film "Women In White," teas for high school girls, the placement of stimulating up-to-date literature in high school libraries and working more closely with the nurses themselves.

Dr. Frank Coleman of the State Legislative Committee pointed out that contact men had been appointed in each county. Information on candidates had been obtained through questionnaires and qualifications had been evaluated so that doctors and their wives may secure details concerning recommended candidates through their county medical societies. With the Basic Science Law again a probable issue, it certainly would do no harm to contact the various candidates concerning their probable attitude toward this most valuable law.

Legislative Counsel Mr. I. W. Myers stated that the loss of even one or two candidates supporting medicine might be interpreted by the administration as a green light for compulsory health insurance. Visiting with candidates on the local level is the most effective measure and getting out the vote is the only language with specific force in the U. S. A.

Mrs. M. K. Chapler.

SOCIETY PROCEEDINGS

MEETINGS

Boone-Story

The annual summer meeting of the Boone-Story County Medical Society was held at the Ames Country Club July 25. Dr. J. E. Estes of the Mayo Clinic spoke on "Periphereo-vascular Diseases."

Linn

The first meeting of the Linn County Medical Society will be held September 14 in Cedar Rapids. Dr. Rollin A. Daniels, Jr., Associate Professor of Surgery at Vanderbilt University, will speak on "Chest Surgery." Dr. T. F. Thornton, President of the Iowa State Medical Society, will also be one of the guest speakers.

Pocahontas

The Pocahontas County Medical Society met at the home of Dr. E. O. Loxterkamp in Rolfe July 25. Dr. Madeline Donnelly, Director of the Division of Maternal and Child Health of the State Department of Health, was guest speaker. Pre-school examinations and immunization were discussed.

Upper Des Moines Valley

The summer meeting of the Upper Des Moines Valley Medical Association was held August 3 at the Inn Hotel on West Okoboji. Speakers included Drs. R. H. Flocks, John C. MacQueen and I. V. Ponseti of the State University of Iowa College of Medicine, Frederick W. Hoffbauer of the Minnesota University College of Medicine, Clifford Lake of the Mayo Clinic and Ralph Dorner of Des Moines.

Waterloo

Dr. T. L. Trunnell was elected president of the Waterloo Medical Society at its meeting July 10. Dr. Arthur Perley was named vice president; Dr. Mark Kuhn, secretary, and Dr. George C. Murphy, treasurer.

Woodbury

A special meeting of the Woodbury County Medical Society was held August 10 in the ballroom of the Martin Hotel in Sioux City. Dr. Thomas Frawley of the Peter Bent Brigham Hospital of Boston spoke on "Observations on the Use of ACTH and Cortisone."

Joint Dinner Meeting

Members of the Hardin, Webster, Wright and Hamilton county Medical Societies held a joint dinner meeting July 11 at the Hotel Willson in Webster City.

PERSONALS

The following changes in personnel of the SUI College of Medicine were recently made:

Dr. Elmer L. DeGowin from Associate to Professor.

Dr. Lewis E. January from Assistant to Associate Professor.

Dr. Raymond F. Sheets from Assistant to Associate Professor.

Dr. Walter M. Kirkendall from Assistant to Associate Professor.

Dr. Bernard I. Lewis to Associate Professor.

Dr. William H. Ames to Instructor.

Dr. Warren C. Bogle recently began the practice of medicine in Marion. Formerly at Center Point, Dr. Bogle is a 1944 graduate of the SUI College of Medicine and interned at Augustana Hospital in Chicago.

Dr. Robert M. Bartel and **Dr. Christian E. Schrock** have become associated with the Rohlf Memorial Clinic in Waverly. Formerly of Dearborn, Mich., Dr. Bartel was a 1943 graduate of the SUI College of Medicine. Dr. Schrock, a 1944 graduate of the SUI College of Medicine, was formerly located in Iowa City.

Dr. Milford E. Barnes, head of hygiene and preventative medicine at the SUI College of Medicine, has been named as a member of the State Board of Health by Governor William S. Beardsley.

Dr. Richard D. Bartholomew joined the staff of the McVay Hospital in Lake City August 1. A graduate of Marquette Medical School in 1947, he interned at the Permanente Hospital there. Recently he has been ship's surgeon at the Oak Knoll Naval Hospital in Oakland, Calif.

Dr. Elmer O. Bean, formerly of Williston, N. D., assumed his duties as pediatrician at the Cogley Clinic in Council Bluffs July 10. Dr. Bean was graduated from the Bowman Gray School of Medicine of Wake Forest College in Winston-Salem, N. C., and has just completed his residency at The Children's Hospital in Washington, D. C.

Dr. Raymond G. Berggreen recently began practice with the Park Hospital Clinic in Mason City as a pediatrician. A 1947 graduate of the University of Maryland School of Medicine and College of Phy-

sicians and Surgeons at Baltimore, he received his residency training at the Medical Center in Jersey City, N. J., and at the University Hospital in Baltimore.

Dr. Gerald F. Brown, former physician at Grand Forks, N. D., has begun the practice of medicine in Iowa City. A specialist in obstetrics and gynecology, Dr. Brown was graduated from the University of Chicago in 1937.

Dr. Roger W. Boulden, formerly of Omaha, has located in Lenox. Dr. Boulden was graduated from the University of Nebraska College of Medicine in Omaha in 1946.

Dr. Joseph Elmer Christopherson joined the surgical staff of the Park Hospital in Mason City August 1. A 1943 graduate of the University of Minnesota College of Medicine, his internship and residency were completed at the General Hospital in Rochester, N. Y.

Dr. Harold E. Farnsworth of Storm Lake has been appointed a member of the State Board of Medical Examiners by Governor William S. Beardsley.

Dr. Willis M. Fowler, professor of internal medicine, has been appointed chairman of the Executive Committee of the SUI College of Medicine.

Dr. William C. Goenne, Jr., has become associated with his father, Dr. W. C. Goenne, Sr., at Davenport. A 1942 graduate of the SUI College of Medicine, Dr. Goenne served his internship at Wisconsin General Hospital, Madison, Wis.

Dr. Donald M. Hickman began his practice of medicine in Indianola in July. A graduate of Creighton University, Omaha, he recently completed his internship at Mercy Hospital in Des Moines.

Dr. Robert R. Horton has begun practicing in Algona. A graduate of the SUI College of Medicine in 1948, he spent his internship at the Charles T. Miller Hospital in St. Paul, Minn.

Dr. Robert L. Jackson, associate professor of pediatrics at the University of Iowa Children's Hospital, presented a paper relating to diabetic investigation at the International Pediatrics Congress in Zurich, Switzerland, July 23-29.

Dr. Philip C. Jeans, head of the pediatrics department at the SUI College of Medicine, left August 10 for Honolulu, Hawaii, where he is giving a series of lectures on nutrition.

Dr. Kenneth V. Jensen began general practice in Newton July 17. A graduate of the Medical College of Charleston, S. C., he interned in Iowa Methodist Hospital in Des Moines.

Dr. Rufus Kruse of Charlotte has recently become associated with Dr. R. T. Spain in Conrad. Dr. Kruse was graduated from the SUI College of Medicine in 1945 and has done special work in obstetrics and medicine at St. Luke's Hospital in Cedar Rapids.

Dr. George H. Lawrence has begun the practice of neurology and psychiatry in Waterloo.

Dr. C. L. LeMar, physician and surgeon in Dow City, plans to retire October 1 after 48 years of medical practice. Ten of his years have been spent practicing in Dow City.

Dr. John R. Maxwell has begun private practice in pediatrics in Iowa City. A 1947 graduate of the SUI College of Medicine, Dr. Maxwell interned at the Harper Hospital in Detroit, Mich., and has recently completed his residency at Children's Hospital at Detroit.

Dr. W. H. McGahey, formerly of Stratford, has begun practicing in Webster City. In the August issue of the JOURNAL it was incorrectly stated that Dr. McGahey had begun practicing in Clarion.

Dr. Robert J. McNamara, urologist, has begun the practice of medicine in Dubuque. In the August issue of the JOURNAL, it was incorrectly stated that Dr. McNamara had begun practicing in Sioux City.

Dr. Stuart McQuiston of Cedar Rapids spoke to the Jones County Health Council recently on "New Forms of Drugs."

Dr. George E. Morrissey, formerly associated with Dr. Walter E. Foley in Davenport, has begun his own private practice in Davenport.

Dr. Jack Moyers of Iowa City left July 30 for Copenhagen, Denmark, where he will teach a five months course in anesthesiology at the World Health Organization School.

Dr. W. O. Nelson, professor in the SUI College of Medicine anatomy department, left recently for Strasbourg, France, to speak at various medical meetings. Dr. Nelson is one of two persons invited to attend the meetings from the United States.

Dr. Joseph Simmons, formerly of Omaha, has begun practicing medicine at Guthrie Center. Dr. Simmons was a recent graduate of the University of Nebraska College of Medicine.

Dr. R. B. Stickler of Des Moines addressed the Nevada Rotary Club July 26 on "Socialized Medicine."

Dr. G. W. Swanson has become associated with Dr. E. E. Gamet in Lamoni. A 1948 graduate of the Ohio State University College of Medicine, he recently completed his residency in obstetrics at the Mount Carmel Hospital in Columbus.

Dr. Rosalie Turner has begun practicing medicine in Nashua. A 1949 graduate of the SUI College of Medicine, Dr. Turner interned at the University Hospital in Iowa City.

Dr. L. F. von Lackum of Oelwein has been reactivated into active duty status in the U. S. Naval Reserve Corps.

Dr. L. H. Whitmer of Muscatine has returned to his practice after a year of special study at Harvard University, Cambridge, Mass.

DEATH NOTICES

Dr. James Everett Kessell, 69, retired Des Moines physician, died at his home July 9 following a six weeks' illness. Dr. Kessell practiced medicine in Des Moines from 1907 until his retirement last year and was a staff physician at the Mercy and Iowa Methodist Hospitals. Dr. Kessell was a member of the Polk County and Iowa State Medical Societies.

Dr. Thomas C. Knox, 66, of Remsen, died July 19 at the Sacred Heart Hospital in Le Mars. Dr. Knox had been in failing health since his retirement April 1. Born in Marcus, Mr. Knox was graduated from the State University of Iowa College of Medicine in 1908. He was a former member of the Mills County and Iowa State Medical Societies.

CLINICOPATHOLOGIC CONFERENCE

(Continued from page 457)

- of postoperative surgical shock. Surg., Gynec. and Obst., xxv:8-22 (July) 1917.
4. Warthin, A. S.: Traumatic lipaemia and fatty embolism. International Clinics, iv, Series xxiii:171-223 (December) 1913.
5. Scuderl, C. S.: Fat embolism: clinical and experimental study. Surg., Gynec. and Obst., lxxii:732-746 (April) 1941.
6. Vance, B. M.: The significance of fat embolism. Arch. of Surg., xxiii:426-465 (September) 1931.
7. Wilson, J. F.; and Salisbury, C. V.: Fat embolism in war surgery. Brit. J. Surg., xxxi:384-392 (April) 1944.
8. Robb-Smith, A. H. T.: Pulmonary fat-embolism. Lancet, i:135-141 (Feb. 1) 1941.
9. Harris, cited by Newman, P. H.: The clinical diagnosis of fat embolism. J. Bone and Joint Surg., xxxiii:290-297 (May) 1948.

SPEAKERS BUREAU

(Continued from page 464)

so that the driving distance for the attending doctors is not more than 50 miles. This was done as a result of the questionnaires sent out this past winter.

Mount Pleasant

- J. Stewart Jackson, M.D., Program Chairman
- Sept. 7 Management of Sinusitis
- Dean Lierle, M.D., Iowa City
- Sept. 14 Management of Common Psychiatric Disorders
- John I. Marker, M.D., Davenport
- Sept. 21 Coronary Sclerosis
- Edward Massie, M.D., St. Louis, Mo.
- Sept. 28 Urologic Problems
- Richard V. Daut, M.D., Davenport

Charles City

- Ray A. Fox, M.D., Program Chairman
- Sept. 11 Management of Acute Myocardial Infarction
- J. Stuart McQuiston, M.D., Cedar Rapids
- Sept. 18 Common Neuroses and Their Management
- Sept. 25 Meningitis in Children
- Oct. 2 Diagnosis and Treatment of Common Anemias

Denison

- R. M. Johnson, M.D., Program Chairman
- Sept. 14 Low Back Pain
- Arch F. O'Donoghue, M.D., Sioux City
- Sept. 28 Feeding Problems
- J. Harry Murphy, M.D., Omaha, Nebr.
- Oct. 12 Surgical Management of Gallbladder Disease
- Leo H. Kuker, M.D., Carroll

- Oct. 26 Common Problems in Allergy
- Louis J. Noun, M.D., Des Moines
- Nov. 9 Management of Diabetes in General Practice
- William D. Paul, M.D., Iowa City
- Cherokee**
- Harmon D. Seely, M.D., Program Chairman
- Sept. 21 Meningitis in Children
- John L. Gedgoud, M.D., Omaha, Nebr.
- Sept. 28 Common Obstetric Problems
- John H. Randall, M.D., Iowa City
- Oct. 5 Bronchial Asthma
- Haddon Carryer, M.D., Rochester, Minn.
- Oct. 12 Hypertension (Panel Discussion)
- Robert N. Larimer, M.D., Sioux City (Internal Medicine)
- Carroll Brown, M.D., Sioux City (Neurosurgery)
- Gerald Rausch, M.D., Sioux City (Psychiatry)

Additional courses this fall will be presented in Ames and Oelwein and a tentative series of lectures is being planned in Pocahontas.

EDITORIALS

(Continued from page 461)

tively that this program will cost \$7,000,000,000 a year when it is in full operation.

Where is the additional \$3,000,000,000 that would be needed going to come from? That's an easy question—the taxpayer is going to get milked again. Perhaps Chairman Boyle should revise his figures upward, say to about \$150 per year per average family, whether the family wants or needs such aid.

The Democrat Chairman quotes extensively from a report by the Committee for the Nation's Health, but he fails to identify this organization as a front for those who are sponsoring socialized medicine.

The Democrat Chairman asserts that the National Health Program is not "socialized medicine," completely ignoring the fact that the essence of "socialized medicine" is that it is paid for by public funds, but controlled by the government.

Nor in his estimates of costs does Chairman Boyle point out that the taxpayer will have to support a huge army of non-medical government employees who will be needed to administer and police the "socialized medicine" service. None of these persons would be able even to set a broken arm.

SPEAKERS BUREAU RADIO SCHEDULE

WSUI—Tuesdays at 11:45 a.m.

WOI—Thursdays at 11:15 a.m.

Sept. 5-7 Getting Your Child Ready for School

Ruth E. Barrett, M.D., Mount Airy

Sept. 12-14 Common Foot Maladies

John D. Ashby, M.D., Davenport

Sept. 19-21 Backache

Worth M. Gross, M.D., Sioux City

Sept. 26-28 Blue Shield

Mr. Donald L. Taylor, Des Moines

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TRACHEOTOMY IN BULBAR POLIOMYELITIS

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Deaths from poliomyelitis occur almost entirely in the bulbar and respiratory forms of the disease. Until recently the treatment of severe forms of bulbar poliomyelitis was largely on a symptomatic basis consisting of postural drainage, as suggested by Durand¹ in 1929, suction of pharyngeal secretions, parenteral feedings in place of oral and oxygen as needed during the acute stage. Whether recovery or death resulted was felt to depend upon the degree of pathologic involvement of the brain stem, a matter which was beyond the control of any further therapeutic means at the command of the physician. More recently, however, tracheotomy in properly selected cases is being advocated by some as a life saving measure. During the 1949 epidemic in Iowa, tracheotomy was done in ten out of 39 cases at Raymond Blank Memorial Hospital. Four of these patients died and six recovered. It is our purpose in this paper to present our experiences with tracheotomy in the management of bulbar poliomyelitis.

Wilson,² as early as 1932, discussed the merits of tracheotomy and stated that it had been performed in a few of his cases. In two children an emergency tracheotomy was performed after collapse had occurred from choking on aspirated mucus, with dramatic relief of symptoms. Davidson³ in 1936 stated that tracheotomy might be necessary in bulbar poliomyelitis. Galloway⁴ in 1943 reported on three cases in which he had done tracheotomy because of troublesome pharyngeal pooling of secretions. Two of the patients recovered and one died. However, tracheotomy received its greatest impetus from the work of the Minneapolis group⁵ in their 1946 epidemic. Of the 1,830 cases treated in Minneapolis, 400 were diagnosed as the bulbar form and among these, 75 tracheotomies were done. Of this group

46 died and 29 survived. It was felt that 17 of the 29 lived because of the tracheotomy, and that two other survivors probably lived because of the operation. Eighteen tracheotomies were done on the pediatric service of the University Hospital of which nine died and nine survived. Seven of these lived because of tracheotomy.

A more recent report by Galloway and Seifert⁶ states that among 15 bulbar cases treated by tracheotomy in the Evanston Hospital in 1947 and 1948 no fatalities occurred. For the same periods the mortality rate in Illinois outside of Chicago for bulbar poliomyelitis was 38.8 per cent and in Chicago for 1948 was 27 per cent. The authors say that six of their 15 patients were desperately ill and would have died without a tracheotomy.

On the other hand, Dr. P. M. Stimson,⁷ chief of the polio service in Knickerbocker Hospital in New York City, states that cases where tracheotomy is indicated have not been encountered. Of their last 23 bulbars, only one was lost and 21 are still alive. Shaw⁷ of San Francisco agrees with Stimson. Others have expressed a similar view. So here we have then a rather clear cut issue which is undergoing testing before the country. Can tracheotomy be the means of saving lives of patients with bulbar poliomyelitis who, without it would certainly die, or is it an unnecessary mutilating operation which may as well be omitted providing other known methods of therapy can be expertly carried out? It is a difficult question to settle. Duplicate control series are impossible. Eventually perhaps a sufficiently large group with and without the operation may be accumulated to permit the drawing of valid conclusions. In the meantime each individual will have to make up his own mind depending upon his experience and his impressions in the management of clinical cases.

To understand the clinical aspects of bulbar poliomyelitis it is convenient to have a classification in mind. It must be remembered, however, that more often than not, the individual case will present some combination of types rather than a single one. Baker⁸ of Minneapolis offers

*From Raymond Blank Memorial Hospital for children.

the following classification based upon studies during the 1946 epidemic:

1. The cranial nerve nuclei group.
2. The respiratory center group.
3. The circulatory center group.
4. The encephalitic group.
5. The bulbar-spinal group (peripheral paralysis of muscles of respiration.)

The classification proposed by Galloway and Seifert varies slightly from Baker's for reasons which will be brought out later.

1. Spinal. Diaphragm and intercostal muscle paralysis.
2. Bulbar paralysis. Involvement of the swallowing mechanism.
3. Bulbar spinal. Combination of the first two.
4. Other disturbances in rhythm and depth of respiration. Effect of anoxia and of carbon dioxide excess upon medulla.

The cranial nerve nuclei group may be divided into upper and lower groups. The upper group consists of involvement of the third, fourth, fifth, sixth and seventh nerves. Obviously involvement of these nuclei presents no hazard to life. Their recognition is of significance, however, in that attention is drawn to invasion of the brain stem and alerts the physician to the possibility of the development of more serious symptoms. The ninth, tenth, eleventh and twelfth nerves make up the lower cranial nerve nuclei group. The functions of these nerves overlap, so that for all practical purposes one may include bulbar poliomyelitis of the lower group of cranial nerves under tenth nerve involvement.

The earliest and most common sign of bulbar poliomyelitis is unilateral or bilateral paralysis of the soft palate with its accompanying nasal speech and tendency to regurgitate liquids through the nose. Excessive expectoration and pooling of fluid in the pharynx indicates paralysis of the upper esophageal muscles. From one liter to one and one-half liters of saliva is secreted by the adult daily. The child secretes somewhat less. To keep the airway open and to avoid aspiration of accumulated pharyngeal and laryngeal secretions into the lungs in an ill, apprehensive child is not an easy task. Postural drainage to be efficient must be at such an angle that suspension of the patient by his feet to the foot of the bed may be necessary. Suctioning must be efficiently and constantly carried out by a skilled attendant. Children who are frightened by this procedure or who are uncooperative present additional difficulties. Neither fluid or food are, of course, given by mouth, both to avoid aspiration and to limit vomiting. The latter is particularly hazardous. Sedatives are contraindicated even

though sleep is desperately needed by the child, and fatigue may be a large factor in an unfavorable outcome. Even with all the other functions of the tenth nerve intact, aspiration of pharyngeal secretions or vomitus may occur. Attacks of choking and cyanosis indicate that this is happening. Pneumonia, atelectasis and hypoxia may result. Fever rises and the white blood count goes up. Penicillin or other antibiotics should be given from the start to limit infection as much as possible. Many of these children will in four or five days progress to the point where the disease process begins to regress and recovery occurs rapidly. In others a tracheotomy, as will be indicated later, would appear to be lifesaving.

In some cases of tenth nerve involvement, the abductor muscles of the vocal cords, either unilateral or bilateral, become paralyzed. If bilateral, the cords are adducted to the midline as seen at laryngoscopy. Clinically, hoarseness and stridor are noted. If the cords are merely in spasm, these symptoms are of short duration. But paralysis of the vocal cords offers a definite obstruction to the airway. Inspiratory efforts with negative intrapulmonary pressure result in pulmonary edema from sucking of fluid and cells from blood vessels into airways. Rales may be heard in the chest. In addition, paralysis of the vocal cords prevents coughing and clearing of the airway. All observers are agreed that when paralysis of the vocal cords occurs, which is not too often, tracheotomy is imperative.

Anesthesia of the larynx has occasionally been reported in tenth nerve paralysis. Its presence would obviously add to the risks of aspiration of pharyngeal secretions because of unawareness on the part of the patient.

Baker states that, of 183 bulbar poliomyelitis patients in the 1946 epidemic in Minneapolis, 36 were classified as belonging to the respiratory center group and 12 as belonging to the bulbar circulatory center group; 69.1 per cent of the former and 83.3 per cent of the latter died. According to the studies of the Minneapolis group, these centers are located in the ventral reticular mass at the level of the inferior olivary body just below the floor of the fourth ventricle. They were able to demonstrate extensive bilateral inflammatory necrosis in the ventral lateral reticular substance and in the ventral medial reticular substance in patients who had died with symptoms of respiratory center and circulatory center paralysis.

Involvement of the respiratory center is indicated by irregularities of rhythm and depth of respiration even though intercostal muscles and diaphragms are functioning normally. Appre-

hensiveness, confusion and delirium leading to coma gradually develop accompanied by periods of apnea and Cheyne-Stokes periodic respiration. Cyanosis becomes increasingly intense.

In the bulbar circulatory center group the patients have a dusky red, flushed, florid appearance. The lips are a deep cherry red. The pulse rate becomes rapid and the blood pressure has a downward trend. The patients are restless, anxious, apprehensive and at times confused. Fever is high. We saw no cases corresponding to this description in our group.

The fourth type in Baker's classification is polioencephalitis. He states that 72 per cent of their 183 patients showed symptoms of encephalitis. The symptoms noted were hyperexcitability, restlessness, excessive irritability, mental confusion or irrationality, personality disturbances, insomnia or somnolence. However, he states further it was noted that the cerebral symptoms would frequently disappear after adequate oxygen administration, an observation which led to the conclusion that much of the encephalitic picture may be the result of hypoxia. At the First International Congress on Poliomyelitis held in New York City in 1949, a number of experts discussed this question of the pathogenesis of encephalitic symptoms. Bodian,⁷ associate professor of Epidemiology at Johns Hopkins, speaking from the pathologist's point of view, stated that the cerebral lesions of poliomyelitis were almost entirely confined to the area of the pre-central gyrus. In the post-mortem studies he had done on patients dying from poliomyelitis with prominent encephalitic signs, invariably a heavy involvement of the brain stem was found, but no more cerebral involvement than in the usual case.

It will be noted that the classifications of bulbar poliomyelitis by Galloway and Seifert, and by Baker agree on three of the types—spinal, bulbar and a combination of the two. But the fourth type differs, and for the reason that Galloway and Seifert believe that the symptoms ascribed to polioencephalitis in Baker's classification, together with disturbances in rhythm and depth of respiration, can best be explained on the basis of carbon dioxide excess and oxygen lack. These authors are of the opinion that death in poliomyelitis is the result of respiratory obstruction rather than of overwhelming infection in the brain stem. They deem it strange that in all the discussion about respiratory obstruction and anoxia so little attention has been paid to the narcotic and even lethal effects of carbon dioxide accumulation. They state that there is evidence that it may be, in part at least, respon-

sible for dyspnea and restlessness, mental depression, disorientation and coma, increased blood pressure, later decreasing and vasomotor failure and circulatory collapse, all of which have been reported as symptoms of bulbar poliomyelitis with involvement of the respiratory and vasomotor centers. In addition to these effects on the central nervous system, they believe there are important secondary effects which may involve the adrenals, the muscle and conduction mechanisms of the heart, the circulatory system by both peripheral and central effects and probably other organs, with respiratory and circulatory collapse and even shock.

According to Gray⁸ and to Seevers,⁹ the narcotic properties of carbon dioxide are directly measurable. Concentrations of less than ten per cent carbon dioxide in the inspired air are not accompanied by symptoms. Those above 30 per cent will produce narcosis in most animals, and above 40 per cent extensive pulmonary edema and hemorrhages from exposed mucous membrane surfaces will occur. During the last war the air force demonstrated that a simple anoxemia of less than 60 per cent arterial oxygen saturation produced unconsciousness without symptoms. The restlessness, distress, apprehension and disorientation seen in asphyxia was thought probably to be due more to hypercapnea than to simple oxygen lack. Gray also points out that acidosis may be a complication of asphyxia because of the retention of carbon dioxide and the excessive production of lactic acid in the muscles during anoxemia.

Galloway and Seifert stress that anoxia of even 60 seconds duration may produce distinct morphologic changes in the brain; that three to eight minutes of anoxia may produce widespread damage and necrosis in the brain cells or death; that repeated periods of hypoxia may have an accumulative effect; that brain cells previously damaged by anoxia or infection are more susceptible to further damage by anoxia and that edema, hemorrhage or necrosis of cells by virus infection may block oxygen absorption.

The differences in point of view of Galloway and Seifert and of Baker, who represents the Minneapolis Research Commission, can be summarized as follows: the former believe that the saving of life in the severe forms of bulbar poliomyelitis depends upon the maintenance of an adequate airway to prevent dangerous levels of anoxia and of carbon dioxide excess; Baker believes that a certain number of fatalities will occur from overwhelming involvement of the respiratory and vasomotor centers in the medulla regardless of treatment. Which of these con-

cepts is correct cannot be answered at the moment, but at least it can be said that the concept of Galloway and Seifert does not permit a fatalistic attitude toward any case of poliomyelitis.

At any rate all are agreed that hypoxia and probably hypercapnea are constant threats which must be combatted by all possible means and that tracheotomy is an effective means.

Baker lists the methods by which hypoxia may be brought about in the various types of bulbar poliomyelitis:

1. Cranial Nerve Nuclei Involvement. (Lower group.)⁷
 - a. Pooling of secretions due to paretic throat muscles.
 - b. Paralysis of the tongue.
 - c. Obstructed airway due to reflex spasms of laryngeal musculature.
 - d. Obstructed airway due to abductor paralysis of vocal cords.
 - e. Accumulations of secretions due to inability to cough.
 - f. Aspiration of vomitus.
2. Respiratory Center Involvement.
 - a. Inefficient, irregular breathing.
 - b. Periods of apnoea.
3. Circulatory Center Involvement.
 - a. Vasomotor failure.
4. Bulbar and Cervical Cord Involvement.
 - a. Any of above causes.
 - b. Involvement of primary and accessory muscles of respiration.
5. Alteration in Lungs.
 - a. Pulmonary edema.
 - b. Atelectasis.
 - c. Complicating pneumonia.

Before presenting our own case material, we would like to list the indications for tracheotomy that have been advanced by Priest and Goltz of the Minneapolis group, by Galloway and Seifert and by Stimson.

Indications for tracheotomy — Priest and Goltz.¹⁰

1. Respiratory distress as evidenced by recurrent cyanosis, coarse rales in the chest and by laryngeal stridor.
2. Excitement and unmanageability causing the patient to resist pharyngeal aspiration strenuously.
3. Stupor of a degree sufficient to make the patient oblivious to accumulation of secretion in his airway.
4. Inability to cough effectively.
5. Pharyngeal pooling of mucous, vocal cord paralysis, or intralaryngeal anesthesia demonstrated at laryngoscopy.

Indications for Tracheotomy — Galloway and Seifert.⁶

1. Progressive anoxia with secretion in the upper airway.
2. Unconsciousness or pronounced restlessness in a patient who does not respond to other treatment in a few minutes.
3. Pronounced restlessness or stupor in a patient in a respirator.
4. Fluid accumulation not otherwise certainly taken care of in a patient who requires a respirator.
5. Bilateral paralysis or spasm of the vocal cords.
6. Rapidly progressive bulbar symptoms.
7. Grave signs of vasomotor failure.
8. Untrained or inefficient attendants, inadequate equipment or poor cooperation of patient, with doubt that the airway will be kept constantly free of secretions.

Indications for Tracheotomy—Stimson.*⁷

1. Bilateral abductor paralysis of vocal cords.
2. Untrained or inefficient attendants.

We did our first tracheotomy in the fall of 1947. We had been disturbed, as is everyone who has had the experience of caring for patients with bulbar poliomyelitis, by the inadequacy of our therapeutic efforts. The favorable results of the Minneapolis group in 1946 epidemic came to our attention. Special collars for the respirators were obtained as were T-tubes for the tracheotomy tubes. Our first case was a 15 year old boy who had severe intercostal muscle and diaphragm paralysis and had been in an iron lung for several months. While convalescing he developed a respiratory infection and atelectasis. Tracheotomy and a return to the respirator became necessary. The boy recovered and in so doing furnished us with a good deal of information about the management of tracheotomized patients in a respirator.

Our confidence was jolted considerably, however, during the 1948 epidemic when four tracheotomies were done and all the patients died. In 1949 our record has been considerably better as is shown in Table 1.

In 1946 a total of 136 poliomyelitis patients were admitted to the Blank Hospital, of which nine were classified as being of the bulbar type. Three of these or 33.3 per cent died. No bulbar cases were seen in 1947. In 1948 there were 23

*In the June issue of the Journal of Pediatrics, Dr. Stimson (11) has modified his indications to the following:

1. Bilateral abductor paralysis of the vocal cords. This causes a mechanical obstruction which must be by-passed.
2. Inability to keep the airway reasonably clear. Some clinics with good teamwork can be notably more successful in this than others that are overcrowded or have inadequate and untrained personnel.
3. Progressive hypoxia, not otherwise correctible.

TABLE I. ANALYSIS OF 1946, 1948 AND 1949 EPIDEMICS

EPIDEMIC	NUMBER OF PATIENTS	NUMBER OF BULBAR CASES	BULBAR CASES % OF TOTAL	NUMBER OF DEATHS	BULBAR DEATHS	BULBAR MORTALITY RATE	TOTAL MORTALITY RATE	TRACHEOTOMIES		DEATHS IN TRACHEOTOMIZED PATIENTS
								BULBAR	NON-BULBAR	
1946 Epidemic	136	9	7%	5	3	33.3%	4%	-	-	-
1948 Epidemic	225	23	10.2%	12	9	39.7%	5.6%	3	1	4
1949 Epidemic	255	39	15.5%	7	4	10.2%	2.75%	7	3	4

bulbar cases with nine deaths, a mortality rate of 39 per cent. Four tracheotomies were done with four deaths. In 1949 we had 39 bulbar cases with four deaths, giving a mortality rate of 10.2 per cent. Ten tracheotomies were done with four deaths. It is impossible to say with certainty that the six survivors lived because of the tracheotomy. They might have lived without it, but it is the impression of all of us who saw them that tracheotomy in these was life-saving. If we assume the six who lived would have died without tracheotomy and add the four who had a tracheotomy but died, we get a total of ten who would have died if no tracheotomy had been done at all. Our total mortality rate among the bulbar

patients would then have been 26 per cent which approximates the bulbar mortality rate for 1946 and 1948.

If tracheotomy is to be a life-saving measure it must be done before the patient becomes moribund and irreversible changes have set in. Two of our tracheotomy deaths were in patients of this type. Emergency tracheotomies were done as soon as possible after the patients were admitted and each died within a few hours. Omitting those two from our statistics would give us a corrected mortality rate of 5.4 per cent among our bulbar cases.

It is not a simple matter to decide when in the course of bulbar poliomyelitis a tracheotomy

TABLE II

INDICATIONS USED FOR TRACHEOTOMY							
NAME	CYANOSIS	POOLING OF SECRETIONS	PNEUMONIA OR ATELECTASIS	PARALYSIS OF VOCAL CHORDS	STUPOR	RESP. FAILURE	EXCITEMENT
1. M.N.	+	+					
2. S.S.	+	+		+			
3. M.F.	+	+	+			+	
4. J.H.	+	+				+	
5. K.L.		+	+		+		+
6. C.L.	+	+			+	+	
7. M.G.	+	+				+	
8. J.W.	+	+	+	+			
9. D.C.	+	+		+		+	
10. B.D.	+	+	+		+	+	

should be done if it is to be life-saving. It is apparent that there is no single sharply defined indication. The clinical condition of patients with this condition changes rapidly. They must be under constant surveillance, and usually this responsibility devolves on the house staff. In Table 2 will be found an analysis of those used in our series. It will be seen that many were late findings.

In Table 3 we have placed some of the major points about the tracheotomized patients other than indications for the procedure. Earlier in the fall we had thought that possibly the rapidity with which the bulbar symptoms came on after the onset of illness might be a useful indication for tracheotomy and also might have some prognostic significance. The acute febrile course of poliomyelitis usually runs about a week. One might expect therefore that the child who developed severe bulbar symptoms on the second or third day of illness would have a harder time than the child who did not get into trouble until the fifth or sixth day when he might be nearing the end of the progressive stage. However, this did not seem to be the case with our patients. C.L. was not operated upon until the sixth day of illness and died, whereas M.N. was operated upon on the second day of illness and recovered.

All of our operated cases but three had tenth nerve involvement. Case two was one of the children who died shortly after admission. There was insufficient time to be certain of the extent of his involvement. The case of M.G. was exclusively intercostal muscle and diaphragm paralysis. She was unable to clear her airway in the respira-

tor and, because of cyanosis, was operated upon. Case eight also had paralysis of his respiratory muscles and was unable to maintain a free airway. Twenty-eight of our 39 bulbar cases had tenth nerve involvement. If we subtract the seven with tenth nerve involvement who had tracheotomies from the 28, there remain 21 patients with lower type of cranial nerve nuclei involvement who were not operated but who recovered.

We also gave consideration to the possibility that the important factor between survival and death in our tracheotomy cases might be dependent upon whether or not the bulbar paralysis was associated with widespread spinal involvement including the extremities as well as the respiratory muscles. This seemed plausible since the first three cases to recover did not have spinal involvement, whereas the first two fatalities did have. However, Case Nine had both tenth nerve and severe spinal involvement and yet recovered.

Finally we were interested in whether the post-mortem findings in non-tracheotomized patients would show any significant differences from the tracheotomized patients. There were seven autopsy protocols available for analysis for the former group and five for the latter. The findings are shown in Table 4. We had thought the lungs in the tracheotomized cases might show significantly less pathology than the non-tracheotomy group, but such was not the case. Both groups showed the same changes to about the same extent. One explanation may be that our equipment for delivering oxygen and for aspiration of secretions was not as efficient as it should

TABLE III

CLINICAL COURSE OF TRACHEOTOMIZED PATIENTS							
PATIENT	DURATION OF DISEASE BEFORE OPERATION	10TH NERVE INVOLV.	WIDESPREAD SPINAL INVOLVEMENT	ENCEPHALITIS	REQUIRED RESPIRATOR CARE	DEATHS	
						BULBAR	NON-BULBAR
1. M.N.	1	+	0	0	+		
2. S.S.	3	0	+	0	+		+
3. M.F.	4	+	0	0	+		
4. J.H.	5	+	0	0	+		
5. K.L.	3	+	0	+	+	+	
6. C.L.	6	+	+	+	+	+	
7. M.G.	5	0	+	0	+		
8. J.W.	15	0	+	0	+		
9. D.C.	3	+	+	0	+		
10. B.D.	3	+	0	+	+	+	

TABLE IV

- POST MORTEM FINDINGS -									
NON-TRACHEOTOMIZED CASES									
CASES	LUNGS			CENTRAL NERVOUS SYSTEM INFECTION			ANOXIA OR HYPOXIA	MYOCARDITIS	ADRENAL LYMPH NODE THYMUS
	PUL. EDEMA	ATELECTASIS	COMPLICATING PNEUMONIA	CEREBRUM	MEDULLA	SPINAL			
1. R.B.	+	—	+		+	+		—	+
2. B.G.	+	—	+	+	+	+		—	—
3. D.S.	+	+	—	—	+	+		—	—
4. N.E.	+	—	—	—	+	+		—	—
5. D.G.	+	+	—	—	+	+		—	+
6. N.R.	+	—	+		+	+		+	—
7. D.B.	+	+	+	—	+	+			+
TRACHEOTOMIZED CASES									
1. L.J.	—	+	—		+	+		—	—
2. C.L.	—	+	+	—	+	+		—	—
3. S.S.	+	—	—	+	+	+	+	—	—
4. K.L.	+	—	+	—	+	+	+	+	—
5. J.B.	+	+	—	+	+	+	+	—	—

have been in these early cases. In our last three cases we believe we have made an improvement in this respect.* It is striking that all the fatal cases whether tracheotomized or not showed extensive evidences of neurone destruction in the brain stem and in the spinal cord. This is in agreement with the findings of neurophysiologists. To our way of thinking it lends support to the Minneapolis view that infection of the central nervous system in all probability is a major factor in the failure of some patients to survive. Definite evidences of anoxia or hypoxia were not encountered frequently. We are advised by the pathology department that this diagnosis on a histological pathological basis is made with considerable hesitation in the presence of neuronal damage from infection. Myocarditis was found only twice. Changes in the adrenal gland, lymph nodes and thymus which might bear a relation to Selye's adaptation or stress syndrome were not conspicuous.

Representative cases in which clinical and autopsy material could be correlated are presented below in summary. It will be seen that widespread destruction was found in the central nervous system of each patient.

The first case is that of a 12 year old boy who did not have a tracheotomy. He had a tenth nerve paralysis, fever of 103 degrees and a blood pressure of 174/110. On the sixth day of illness and the first hospital day, he developed swallowing difficulty, choked after an episode of vomiting and rapidly progressed to death on

the afternoon of the second hospital day. Autopsy showed widespread involvement of the basal ganglia, medulla, pons and entire spinal cord. There was cerebral edema, pulmonary stelectasis in the right and left lower lobes, acute dilatation of the right heart, early pneumonitis and acute passive congestion of the lungs and abdominal organs.

The second case is that of a two year old girl who was the first of our tracheotomized patients to die. She was lethargic from the day of admission on her third day of illness. On her second hospital day evidence of tenth nerve involvement was noted and also what was thought to be involvement of her respiratory center. Breathing was irregular in depth and rhythm. She suddenly became cyanotic and comatose 24 hours later. Tracheotomy was done on the sixth day of illness. Her color improved at once but it could not be maintained. She lived in the respirator for six more days, completely unconscious during the last four days with increasing cyanosis. Widespread paralysis of extremities and respiratory muscles developed.

Autopsy showed extensive destruction of nerve cells in the medulla and spinal cord. There were also areas of atelectasis bilaterally, an early bronchopneumonia and parenchymatous destruction of the liver.

The third case is another of our tracheotomized children who died. He was a four-year-old who had tenth nerve involvement upon admission on the third day of his illness. He rapidly became stuporous and rales were heard in his lungs. Following tracheotomy he regained consciousness and the cyanosis disappeared but gradually these symptoms returned and he died on the fourth hospital day.

Autopsy showed widespread changes in the medulla and cervical cord. A small focus of myocarditis was described and the lungs showed marked passive congestion and evidence of an early pneumonitis.

Discussion

Our experience with bulbar poliomyelitis has been entirely with children under 15 years of age. It may be that this fact has colored our opinion about the value of tracheotomy, for children with pharyngeal paralysis are understandably more difficult to manage than adults similarly afflicted. At the present time we are convinced that tracheotomy in addition to other essential therapeutic measures can save the lives of some cases of bulbar poliomyelitis who would otherwise die. Our 1949 mortality rate of 10.2 per cent among our bulbar patients, as compared to

*For a description of the tracheotomy tubes and oxygen delivering apparatus now in use, see the article on page 279 by Dr. Downing.

33.3 per cent in 1946 and 39 per cent in 1948, while not statistically significant because of the small number of cases, nevertheless lends support to our belief. If we are permitted to exclude the two children who were moribund on admission, but who were tracheotomized as an emergency measure, our mortality rate for 1949 would stand at 5.4 per cent which we feel is a very satisfactory rate for bulbar poliomyelitis among children. We cannot agree with Stimson¹¹ that tracheotomy contributes to the mortality as is implied in his statement, "The mortality following tracheotomy in polio is high." It is our impression that it is the disease and not the operation which accounts for the mortality. On the other hand, we are in complete agreement that tracheotomy is unnecessary for many, if not most, patients with tenth nerve involvement. In only seven of our 28 cases of this type did we resort to tracheotomy and only when we felt that prognosis without operation was decidedly unfavorable.

The problem, of course, is to select those patients who will probably live without tracheotomy from those who will probably die without it. Indications for tracheotomy as listed by Priest and Goltz, by Galloway and Seifert and by Stimson are helpful indeed, but even these require experienced evaluation and interpretation in the individual case if the tracheotomy is to be performed at the crucial time. Unquestionably hypercapnea and hypoxia from inadequate pulmonary ventilation are responsible for the unfavorable course in many cases of bulbar poliomyelitis. While we have had no experience with an oximeter and have not done oxygen saturation studies on arterial blood, we have in a few cases recently done blood plasma ph and carbon dioxide combining power determinations with the hope that we might find an earlier and more specific indication for tracheotomy than is obtainable by clinical observation alone. Thus far we have been disappointed in the information derived from this source. The development of a quick and simple method of determining pulmonary gaseous exchange where adequacy of ventilation is the chief problem should be of decided advantage. If uncorrectable by other means, a clear indication for tracheotomy would be apparent.

But not all patients with bulbar poliomyelitis whose disease process is pursuing an unfavorable course have obstructed airways, as is illustrated by the following case: A 12 year old girl was admitted on the third day of her illness with palatal and pharyngeal paralysis. She had been able to sleep very little in the preceding 48 hours due to the pooling of her pharyngeal secretions.

However, her pulse, color, orientation and cooperation were all satisfactory. She was placed in an oxygen tent, on postural drainage at an angle of 30 degrees, and all fluids including 10 per cent glucose were administered intravenously. Suctioning was efficiently carried out by a trained attendant who was constantly on duty. On the second day following admission toward evening her temperature rose, and she became restless and at times irrational. A carbon dioxide combining power and blood ph were done, both of which were normal. Pulmonary excursion was ample and no rales were heard in her chest. Suctioning was made difficult by her uncooperativeness. Some six hours later the carbon dioxide and ph determinations were reported and again were found to be normal. Gradually her respirations became irregular and cyanosis was evident. At three in the morning she suddenly stopped breathing, and became deeply cyanotic. She was immediately placed in a respirator and within five minutes her color had returned and she responded to commands to open her mouth to permit suctioning. A tracheotomy was carried out with the child in the respirator. Recovery was uneventful and in a week's time she was out of the respirator. Her tube was removed a few days later and she returned home. Our interpretation in this girl's case was that her respiratory center became paralyzed. Artificial respiration via the respirator was imperative, and tracheotomy was necessary in order to avoid aspiration of pharyngeal secretions from the negative pressure exerted by the respirator. It seems to us that there should be little doubt in the mind of anyone—there certainly was none in ours—that this girl would have died without the aid of the respirator and the performance of the tracheotomy.

If we are correct in our belief that tracheotomy is capable of reducing mortality in bulbar poliomyelitis, then its use should not be discouraged and its value minimized. On the contrary we feel that efforts should be redoubled to define more exactly its indications, and centers with trained personnel strategically located, should be established throughout the country.

Summary

The controversial issues concerning the role of tracheotomy in the treatment of bulbar poliomyelitis have been presented. One view holds that tracheotomy is seldom if ever indicated and that the majority of patients can be saved by expert management. Others feel that tracheotomy is definitely life-saving. A second controversial issue concerns the cause of death. Overwhelming infection of the brain stem involving the

respiratory and circulatory centers is the mechanism in the opinion of many. Others maintain that respiratory obstruction with anoxia and probably carbon dioxide excess best explains the situation.

Thirty-nine cases of bulbar poliomyelitis were seen at the Raymond Blank Memorial Hospital in the 1949 epidemic. Tracheotomy was done on ten of them. Four patients died, two of whom were moribund on admission and died within a few hours. It was our impression that the six who lived did so because of the tracheotomy. The mortality rate for bulbar poliomyelitis at this hospital in 1946 was 33.3 per cent; in 1948, 39 per cent; in 1949, 10.2 per cent (corrected, 5.4 per cent).

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SOME MECHANICAL TRACHEOTOMY PROBLEMS IN BULBAR POLIOMYELITIS

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Collaborators

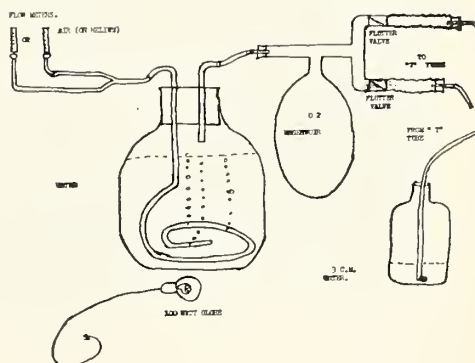
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This tracheotomy T tube is the outgrowth of team work at the Raymond Blank Memorial Hospital in Des Moines between the Ear, Nose and Throat Department, the pediatricians, residents, interns and the nursing staff, with the cooperation of our engineering and manufacturing jeweler friends. We have been unfortunate at the Raymond Blank Memorial Hospital for Children in Des Moines to have a high percentage of bulbar poliomyelitis and Dr. Lee F. Hill was the instigator of trying to do something more than

what we had been doing before in an effort to save a higher percentage of these children who had bulbar poliomyelitis and had to be put in the respirator. We tried in the beginning to use ordinary tracheotomy tubes with oxygen flowing over the top of the tube. This was entirely inadequate. In 1946 we did an emergency tracheotomy on a boy in the respirator and had a copper right angle T soldered to an ordinary Jackson inner cannula tube. When we first used it we attached the oxygen to one arm allowing the oxygen to flow about six to ten liters and leaving the other arm free. This was only a waste of oxygen. When we learned in the early part of 1949 about the University of Minnesota's



O₂ mixer and dispenser developed during their 1946 epidemic, we assembled a very crude affair gathering parts from here and there which worked very efficiently. We were able to care for two patients on one dispenser with a flow of three to four liters of straight oxygen per hour or from two to three liters of O₂ plus an equal amount of air which gave us about an 80 per cent mixture. Our modification of the University of Minnesota's O₂ dispenser was due to the time element necessary to assemble it in an emergency. The wooden rack to hold bottles and bag makes it easily transported and stored intact.

To mix the O₂ and air (or helium) from each flow meter, a rubber tube was connected to a copper T. The resulting mixture was piped by one-fourth inch tubing to a gallon bottle with two holes in the cork; a one-fourth inch coiled plastic tubing, with small holes in the submerged end, was sunk into the water bottle and connected to the input of O₂ and air. The outlet, a short piece of one-fourth inch plastic, was carried to the regular breathing bag by one-fourth inch rubber tubing. From the breathing bag, three-fourth inch ordinary galvanized nipples and T's made the double connection of anesthesia tubing for two patients; a flutter valve was placed



between the breathing bag and each patient's tracheotomy tube. The first valves were made from duck calls and worked very well by occluding the air leaks with plastic cement. Later regular balance valves were made by one of our engineer friends. A 100 watt light was found to keep the water bath at the desired temperature. From the anesthesia tubing, one-fourth inch rubber tubing about 12 inches long, was used for connection to the patient's T tube. The expiratory tube, attached to the T tube, was immersed about three c.m. in a water bottle and the lower end anchored so the alveolar resistance remained constant.

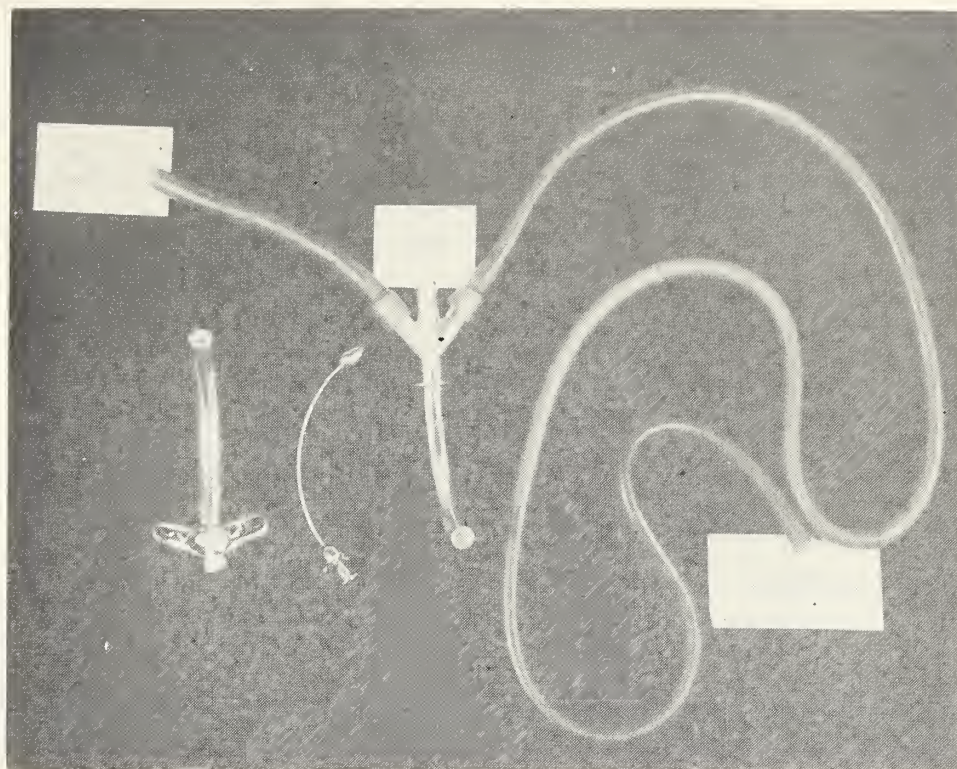
Bubbling on expiration in the expiratory bottle shows whether the apparatus is working. Suction could be done without removing either input or output tubes simply by removing stopper and replacing when through.

A wetting agent can be added to the water bottle (Sodium Lauryl Sulphate U S P or Tween 20) if secretions tend to dry. No water trap is necessary if the apparatus is lower than the T tube as water will trap itself in the breathing bag or in the large tubing and can easily be emptied.

When used in respirator patients the O_2 air mixture is not so important only to see that an excess of O_2 is supplied. A positive pressure in the respirator of 5 c.m. with about 15 c.m.

negative has been found more effective than 0 positive pressure, as CO_2 is better eliminated and secretions are forced out into large bronchi where they can be aspirated by catheter suction. Without the respirator, an excess of O_2 will depress the respiratory center from lack of stimulation by CO_2 and the mixture must be adjusted to balance the patient's condition.

About this time we thought we had a good deal of our difficulty solved. Dr. Hill read a paper on polio at Iowa City, and we were severely criticized about several things. First, pediatricians at the S.U.I. College of Medicine claimed that the ordinary commercial adaptor, which had an acute angle for connecting tubing, was much more efficient than our right angle T tube. We came home and tried to find out whether (1) the diameter of the T tubes was of any consequence, (2) whether the cut in volume by the commercial adaptor and (3) the angles of flow and (4) the length of connecting tubing made variations in amount of O_2 delivered to the patient. From one of our engineers we elicited the following data: that in air flow, disregarding angles, curves and friction, the size of the tube made a considerable amount of difference. That is, the carrying capacity of a six mm. tracheotomy tube would be its area or 28.274 and the carrying capacity of a seven mm. tube would be 38.485. That is, a six mm. tracheotomy tube, disregarding the angle, curve and friction, would only carry 73.5 per



cent of a seven mm. tube and a seven mm. tube would carry 36 per cent more than a six mm. tube.

We did experiments using a Collins respirator with water displacement in a cylinder using minus 20 vacuum with a plus two pressure. We used small tubes as most of our patients were children and we found that a six mm. tube on a straight angle pull gave 395 cc. of water displacement per suction. On the same six mm. tube with a 45° angle pull we had 360 cc. water displacement per suction. With a seven mm. tube at a straight angle pull we had 395 cc. displacement per suction with a 45° angle pull 291 cc. displacement per suction, so there is quite a difference in angles especially when the size decreases and friction increases.

The next experiment we made was in answer to the criticism of the lengths of quarter inch tubing connected between the tracheotomy tube and the oxygen mixer. We made experiments with quarter inch tubing attached to a six mm. tracheotomy tube, using a straight angle pull and 18 inches of tubing, cut the water displacement from 291 cc. to 290 cc. which was purely negligible. Using eight feet of quarter inch rubber tubing and a six mm. tube the straight angle pull cut from 291 cc. to 260 cc. Our conclusion then was that ordinary lengths (six or eight

inches) of tubing are not important in the small size of tube, that is the five, six or seven mm. tube. In larger sizes they would be important.

Then we made experiments with commercial adaptors which add one layer of metal to the inner cannula. Using the same water displacement with a seven mm. tube on a straight pull there was a water displacement of 386 cc. and with the adaptor adding the one extra layer of metal 280 cc. displacement. This will average about the same percentage as the engineer's law quoted previously. In the development of these new tubes we tried to eliminate any narrowing by the addition of adaptors. We tried to keep the angles of flow as nearly straight as possible and still have enough room to attach connecting tubing for input and output and have a suction outlet that could be capped when suction was not used. We have not measured the flow rate of these tubes as there has not been time since we received them from the manufacturers, and the tubes and the respirators have been in constant use.

We are of the opinion that they are not only useful in polio in the respirator but in tetanus with laryngo-spasm, drowned lungs and head and chest injuries where a positive O² closed system must be maintained.

THE USE AND ABUSE OF THYROID THERAPY

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The thyroid gland was first described in detail in 1656 by Thomas Wharton, but it was thought to have an excretory duct until Haller's description in 1776. The manifestations of hypothyroidism have been known even to the laity for centuries before its etiology was recognized. Many of the village morons with the thick nose, lips and skin, and poorly developed hair have been described in mountainous regions. Hilton Fagge¹ in 1871, thought that sporadic cretinism was due to the absence of the thyroid gland and Gull,² in 1873, described cretinoid conditions developing in adult women. Ord,³ in 1877, gave the term myxedema and in 1879 the Riverdin⁴ brothers found that subtotal thyroidectomy for goiter may produce myxedema. About this time Kocher⁵ described the same clinical picture developing after thyroidectomy. It was not until 1891 that Murray⁶ administered a glycerine extract of the thyroid to patients with myxedema and one year later MacKenzie⁷ and Fox⁸ administered the gland to such patients. Magnus-Levy demonstrated in 1895 that the administration of thyroid raised the low basal metabolic rate observed in patients with myxedema. Desiccated and defatted thyroid substance has been used extensively in the treatment of patients, and its use now has become fairly clearly defined.

All methods of therapy proceed through a stage when they are employed in numerous conditions before their efficacy is evaluated and are placed in the proper niche. So it was with thyroid. It has been employed in a large number of conditions. Those in which it is effective and some

of those in which it continues to be employed are listed in Table 1.

In mongolism and gargoylism thyroid therapy has been employed only when they are mistaken for cretinism. Many cases of mongolism, however, have been treated with thyroid for months to years because of the mistaken diagnosis. Thyroid therapy has been used in the other conditions because a low basal metabolic rate is present or because comparable manifestations are observed in myxedema. In obesity, low rate neurasthenia, inanition asthenia, chronic fatigue, rheumatoid arthritis and nephroses the basal oxygen consumption may be below normal. It is for this reason that thyroid therapy is employed so frequently. The arterial pressures are usually low in hypothyroidism, and it is for this reason that such treatment is prescribed in patients with low arterial pressures. Rarely one encounters a case of myxedema with arterial hypertension in which the arterial pressures return to normal with specific treatment. Some physicians have, therefore, used desiccated thyroid in all cases of hypertension. Cholesteremia is common in primary hypothyroidism and it returns to normal levels with adequate treatment. It is for this reason that certain physicians have employed thyroid therapy in all cases of cholesteremia. Lipemia is rare if it ever occurs in myxedema, but it has been associated with elevated blood cholesterol and therefore thyroid has been used in such cases. Alopecia does occur in myxedema and it is for that reason that many cases of alopecia of other etiology have been considered erroneously to be due to thyroid deficiency. Loss of libido is not as common in the hypothyroid states as is generally thought, but it occurs in some cases. It is attributed in many cases to thyroid deficiency without other evidence of such a deficiency. Nasal congestion and deafness are not uncommon in myxedema and many have, thereby, employed thyroid treatment in such cases without any other evidence of thyroid deficiency. In some cases there is an accompanying low oxygen consumption. In a majority of such cases the manifestations are due to chronic fatigue and/or low rate neurasthenia and thyroid therapy is contraindicated. The basis for desiccated thyroid in cases of calcification is due to the loss of calcium from the body in cases of hyperthyroidism. Such reasoning is erroneous and such therapy is not indicated. Evaluation of thyroid therapy in nephrosis has been difficult. Spectacular improvement has followed desiccated thyroid treatment but such improvement is not consistent or predictable and spontaneous improvement does occur.

Table 1.
Thyroid Therapy

Uses	Abuses
1. Primary hypothyroidism	1. Mongolism
a. Cretinism	2. Gargoylism
b. Myxedema	3. Obesity
2. Secondary hypothyroidism	4. Low Rate Neurasthenia
3. Malignant exophthalmos	5. Inanition
4. Certain menstrual disorders	6. Hypertension
5. Certain sterility in females	7. Asthenia
6. Localized myxedema of skin	8. Hypotension
	9. Chronic Fatigue
	10. Cholesteremia
	11. Alopecia
	12. Loss of Libido
	13. Rheumatoid Arthritis
	14. Lipemia
	15. Calcification in Bursa
	16. Nephrosis
	17. Nasal congestion
	18. Deafness

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It will be noted from Table 1 that cretinism and myxedema are the two conditions in which thyroid deficiency alone occurs and thyroid replacement therapy is indicated and is specific. The details of treatment of adult myxedema will be presented later in the discussion. Secondary hypothyroidism occurs in certain cases of hypopituitarism and probably occurs in cachexia and inanition. The administration of thyroid substance alone in such cases is inadequate and inadvisable.

In malignant exophthalmos the theory has been formulated that the thyroid gland is necessary to absorb or to destroy the excess thyroid stimulating hormone which is thought to be the contributing factor in the exophthalmos. This has not been definitely established, however, and many think that the amount of thyroid hormone in the body is the controlling factor. Thyroid glands have not been transplanted successfully; if they have been removed erroneously, desiccated thyroid therapy should be employed in such cases and in cases with apparently normal functioning of the thyroid gland. Regression of the exophthalmos has been noted in two of our cases by such treatment.

The administration of thyroid substance has corrected scanty or excessive menstrual flow, and irregular menses have become regular in some instances. As a rule the dose required is relatively small and the mechanism of action is hypothetical at the moment. In like manner certain cases of sterility in women have been corrected following small doses of thyroid.

The concept that the basal metabolic rate is low in obesity is a false idea which originated when the basal metabolic rate was calculated from the calories per pound of body weight. On the other hand when it is calculated on the basis of the surface area it is found to be within normal ranges. Instance of hypothyroidism in obesity is extremely rare, and the development of obesity after the onset of the myxedema has been observed by the author in only one instance. We should bear in mind that the adipose tissue is only stored food material and that the oxidation rate in the actual living tissue of the body in obese individuals is at a faster rate than it would be if the person were of normal size. The oxygen consumption of actual living tissue will be increased from 25 to 75 or 100 per cent than it would be if the individual were of normal size. The administration of thyroid is, therefore, contraindicated.

In persons with low basal metabolic rates without hypothyroidism, the term low rate neurasthenic has been devised.

These individuals have caused a great deal of difficulty in the past because their basal oxygen consumption may vary from 20 to 30 per cent below normal without any other evidence of hypothyroidism. The body temperature is subnormal in many of these individuals. They are extremely tired in the morning, and their oxygen consumption in a true basal state is the same as during sleep. Sleep, we know, reduces the oxygen consumption about 15 to 20 per cent. It is necessary, therefore, to differentiate these individuals from primary or secondary hypothyroidism. In such cases the clinical picture is very suggestive, and they are not sensitive to thyroid administration. Large doses of thyroid are required to raise their basal metabolic rate to normal, and the manifestations of overdosage of thyroid become apparent by the time the basal metabolic rate reaches normal limits.

The thyroid gland is the organ which converts ionic iodine into hormonal iodine. The latter is distributed by the blood to the tissues. McClenendon and Foster⁹ reported that the iodine content of peripheral tissue is approximately of the same order as that of the blood. It is reasonable to presume, therefore, when the thyroid gland produces less or no hormonal iodine the body destroys or excretes that present and an hormonal iodine deficiency develops. Such a deficiency reduces the oxygen consumption in the tissues. In the treatment of myxedema, therefore, it is necessary to correct this hormonal iodine deficiency.

In adult myxedema it has been established that when the hormonal iodine contained in six grains of desiccated thyroid substance is stored in the body it will raise the basal metabolic rate approximately 2.8 per cent. It is known that patients with myxedema will destroy or excrete daily an average of approximately the hormonal iodine contained in two grains of desiccated thyroid gland.

The amount of thyroid required to correct the hormonal iodine deficiency in the body can be roughly calculated from the depression of the basal metabolic rate. For an illustration, an individual who had a basal metabolic rate of 40 per cent below normal will require 84 grains of thyroid to correct the hormonal iodine deficiency in the body and thereby bring the basal metabolic level to normal. This figure is obtained by dividing 2.8 into 40, which will give 14, and by multiplying this by 6, hence the 84 grains of thyroid required to raise the basal oxygen consumption to normal.

The 84 grains of thyroid can be administered by a rapid, moderate or slow method. If the

Table 2.

	Dosage Thyroid	Total Daily Dose Thyroid	Thyroid De- stroyed or Excreted Daily	Thyroid Stored by Body Daily	Days to Cor- rect Hormonal Iodine Deficiency
Rapid Method	2 gr. T.I.D.	6 gr.	2 gr.	4 gr.	21
Moderate Method	2 gr. B.I.D.	4 gr.	2 gr.	2 gr.	42
Slow Method	1 gr. T.I.D.	3 gr.	2 gr.	1 gr.	84

Table II shows the thyroid destroyed or excreted by the body, that stored and number of days to correct hormonal iodine deficiency with different daily doses of desiccated thyroid.

patient is a young adult with uncomplicated myxedema the rapid method is employed. It will be noted from Table 2, which shows the three methods of administration of desiccated thyroid, that six grains are administered daily by the rapid method. The body destroys or excretes hormonal iodine equivalent of two grains daily and therefore stores the equivalent of four grains. It will require 21 days to correct this deficiency.

With the moderate method, four grains of thyroid are administered daily, the body destroys or excretes the hormonal iodine equivalent of two grains and two grains are stored. It will require 42 days to correct the deficiency. With the slow method of three grains daily, only the hormonal iodine equivalent of one grain will be stored and 84 days will be required. After the deficiency has been corrected, two grains daily on the average will be necessary for maintenance. The moderate method of administering desiccated thyroid gland is employed in older uncomplicated myxedema and the slow method in the complicated cases or those with arteriosclerotic heart or renal disease.

One word of caution in the treatment of people with myxedema heart disease: it should be borne in mind that these individuals are extremely sensitive to thyroid; therefore it is wise to use extreme care. It is advisable to give these individuals one-half a grain of thyroid a day for five to seven days, one-half a grain twice daily for five to seven days, one-half a grain three times daily for five to seven days, one grain twice daily for five to seven days and then one grain three times daily for 84 days. By such a program you are taking little chance of throwing these individuals into acute cardiac failure or producing any damage.

After the hormonal iodine deficiency has been corrected in these patients, a maintenance dose of thyroid is required. The thyroid gland is unable to produce this hormonal iodine and it must be obtained by oral administration. Experience has taught that the body destroys or excretes daily on the average the amount of hormonal iodine present in two grains of desiccated thyroid gland. This amount must be supplied daily or a deficiency will develop. Should it require 84

grains of desiccated thyroid gland to correct the deficiency and the intake of thyroid ceases, the patient would be depleted of hormonal iodine after 42 days. In a like manner should the patient omit one dose of thyroid one day each week, the hormonal iodine would become depleted. After missing the first dose, only the hormonal equivalent of 82 grains would be stored; after the second only that of 80 grains, and so on until after 42 weeks the deficiency would be at the pre-treatment level. Regularity and constancy of maintenance dose are important.

Patients with secondary hypothyroidism due to a deficiency of the anterior pituitary gland may in rare instances develop typical myxedema. Such patients are extremely sensitive to thyroid therapy, and when it is instituted they may develop Addisonian crisis because adrenal deficiency may be present in addition to that of the thyroid. If a crisis should occur the thyroid medication should be stopped immediately and the Addisonian crisis treated promptly. After the Addison's disease has been adequately controlled, thyroid therapy may be instituted cautiously as described in myxedema heart disease.

Summary

The uses and abuses of thyroid therapy have been discussed. The reasoning behind the abuse of thyroid therapy in many instances has been presented. The methods of treatment of adult myxedema have been outlined and the cautions in the treatment of myxedema heart disease and myxedema coexisting with Addison's disease have been emphasized.

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EARLIER DIAGNOSIS OF CARCINOMA OF THE CERVIX UTERI

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During the past decade increasing emphasis has been toward early diagnosis as the most effective way of reducing the death rate from cancer. This has resulted in intensified efforts to educate the laity about the "danger signals" and physicians about the necessity of "thinking of cancer first" when symptoms appear, an increased use of biopsies from suspicious lesions and finally in the development of cytologic technics, especially for screening large numbers of patients. All cases of uterine cervical cancer treated at the University Hospitals from 1940 to 1949 have been studied to determine whether there has been any significant change in the extent of the lesions and whether education and new technics have been effective.

YEAR	PERCENT OF NEW CASES — LEAGUE CLASSIFICATION						TOTAL BIOPSIES	TOTAL NEW CASES
	0	I	0 + I	II	III	IV		
1940	—	16.4	16.4	57.3	21.3	4.9	134	61
1941	—	14.7	14.7	72.1	9.8	3.3	215	61
1942	—	12.7	12.7	69.8	14.2	3.2	162	63
1947	1.5	28.5	30.0	39.2	25.4	6.6	235	63
1948	14.9	30.8	45.7	31.8	18.8	3.7	423	107
1949	7.5	34.1	41.6	32.9	15.2	10.1	370	79

Table 1.

Incidence and stages of carcinoma of cervix at S.U.I. Hospitals.

In the period 1940 through 1942 as shown in (Table 1), there were 185 new cases of cervical cancer treated and in the second period 226 cases, exclusive of 23 cases of carcinoma in situ. During the 1947-1949 period, the number of biopsies was double that of the earlier period as is shown in Figure 1. The carcinomata *in situ* were mostly discovered in patients from whom cytologically studied smears had revealed abnormal cells suggesting malignancy. The fact that there was a significant increase in the number of carcinomas detected suggests that educational measures and more widespread use of diagnostic aids are showing their effectiveness.

Study of Figure 2 shows that the percentage of cases belonging to Stage I under the League of Nations classification was on the average more

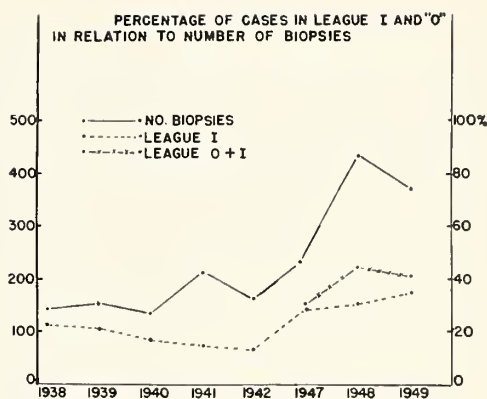


Figure 1.

than twice as great in the latter period. Further study of Table I, however, shows that the apparent improvement was gained at the expense of the Stage II cases, since the number of women with lesions in Stages III and IV remained relatively unchanged. Inclusion of carcinomata *in situ* (Stage 0) with Stage I cases accentuates this difference. Every effort has been made to standardize clinical classifications, and an attempt has been made to place borderline cases in the higher rather than the lower stage.

Assuming the validity of the clinical classification, it is obvious that the four-year interval (1942-1947) saw a remarkable increase in the number of early cases of cervical carcinoma seen in this clinic. The present lay and professional educational program of the American Cancer Society and its state divisions has been intensified since 1946, and it appears likely that this effort must be given much credit for increasing the percentage of early cases seen. Frequent utilization of biopsies, together with the practically routine employment of cytologic smear examinations are essential for the diagnosis of intra-epithelial malignancies and evidently have in-

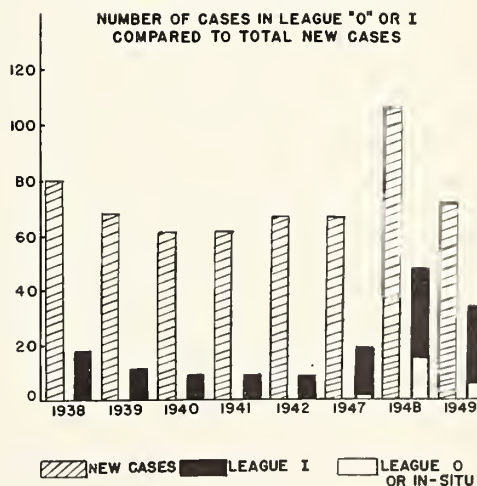


Figure 2.

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creased the number of patients with early malignancies.

Since the great majority of patients seen in the clinic are referred by their local physicians, it is obvious that two favorable things have happened: (1) Women are appreciating the significance of early symptoms of cervical cancer (vaginal bleeding and discharge) and seeking medical advice earlier. (2) Physicians are realizing that abnormal vaginal bleeding or watery discharge, especially in women over 40 years of age, should be assumed to mean cancer until some other acceptable explanation is found. This mere "thinking of cancer" automatically leads to utilization of cytologic smears and biopsies or to referral to some institution equipped to carry out these examinations.

Lay education is largely directed toward bringing the patient to the doctor. Once she has presented herself to the physician, the responsibility of detecting carcinoma of the cervix rests upon his shoulders. A thorough gynecologic history is essential as it is not uncommon that the initial complaint is unassociated with the genital tract. A careful history may elicit significant symptoms such as abnormal vaginal bleeding or discharge. The patient often does not volunteer the information which will alert the physician.

Every physical examination of an adult female should include a thorough pelvic examination. The patient is placed in lithotomy position and the introitus is examined. A clean speculum without lubricant, as excessive lubricant interferes with the evaluation of the vaginal discharge, is carefully inserted into the vagina. The vagina and cervix are inspected for lesions and a damp cotton applicator introduced into the cervical os. The material collected is quickly smeared onto a previously labeled clean glass slide and immediately placed in a bottle containing equal parts of ether and 95 per cent alcohol. These smears, after proper preparation, should be interpreted by a trained cytologist. The speculum is removed and a gentle rectovaginal bimanual examination is done. The cervix is evaluated for consistency and mobility and the parametria palpated for evidence of induration or thickening. The vaginal speculum is reinserted exposing the cervix. If a gross lesion is noted, a biopsy is taken. If none is visible, an aqueous iodine solution* is liberally applied to the cervix. Biopsies should be taken from those suspicious areas which fail to stain nut-brown. This simple procedure can be done in the office without anesthesia. A sterile tampon placed in the vagina

will adequately control bleeding and can be removed by the patient after six to eight hours. Such a pelvic evaluation will add little to the total examination time.

Summary

1. A comparative analysis of the incidence and stages of cervical cancer seen at the University Hospitals is presented.

2. It has shown that an increased percentage of earlier carcinomas of the cervix has been treated at the University of Iowa Hospitals in the past three years.

3. This trend must be attributed to the increasing success of lay and medical cancer education, as well as to the more widespread use of diagnostic aids.

EVALUATION OF TREATMENT OF HERPES SIMPLEX CORNEA WITH THE NEWER ANTIBIOTICS

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The evaluation of the treatment of herpes simplex corneae, a disease which varies enormously, is not easy. The corneal disease is characterized by the development of a superficial epithelial infection with the development of minute epithelial opacities and fissures, which are composed of vesicles and areas of necrosis with the development of a typical dendritic figure. The disease was apparently first described by Horner¹ in 1871 although historically the disease probably had existed for many centuries. There is considerable confusion regarding dendritic keratitis since there is such an enormous variation in the clinical picture.

Herpes simplex corneae is indeed a common disease, constituting one of the most frequent ulcers of the cornea. During the past several years a great deal has been learned concerning the herpes virus. The name of the virus, "herpes simplex," is derived from the type of lesion produced on the skin. The virus on the mucocutaneous border produces a blister which breaks into an ulcer, and a dense scab forms over the ulcer. This lesion runs a course of approximately three weeks and heals, leaving a small red area which eventually heals entirely, without a noticeable scar. This type of lesion has been the subject of a great deal of controversy for many years. The work of Dodd, Johnson and Budding² and Burnett and Williams³ has shown that the herpes infections follow a fairly regular course. Their reports can be summarized in brief. Herpes sim-

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*Lugols solution: Potassium iodide, 2; iodine, 1; distilled water, 300.

plex is primarily a human disease. The human being is the carrier of the disease and has been so for many centuries. Infection with herpes usually occurs in a newborn baby. An aphthous type of stomatitis develops and this disease runs a course of approximately from three weeks to six months, following which the child will have a latent infection in his mouth for the rest of his life. A good deal of the time the virus is latent. However, under appropriate stimuli, such as a severe infection from influenza, malaria or exposure, the virus is brought out and will produce a lesion. The infection will then occur, run its course and disappear. All of these individuals who have had, or are subject to herpes labialis, have a high antibody titer in their blood. Individuals who have never had herpes labialis or herpes elsewhere on their body have no circulating antibodies. The simplest method to determine the antibody titer is to grow the herpes virus on the chorio-allantois membrane of a developing hen's egg. A stock herpes virus in appropriate dilution will give rise to a convenient number of foci on the chorio-allantois membrane. The number of foci on the membrane at this dilution can be expressed in units per cc. When the diluted virus is mixed with serum from a patient who is subject to herpes infection, then no lesions will develop, and by decreasing the dilution, it is possible to arrive at a figure of the amount of neutralizing antibodies present in the patient's serum. In persons who are not subject to herpes infection, when their serum is mixed with the virus, there is no neutralization of the virus. This is in direct contradistinction to some of the other viruses, such as influenza. When individual sera are titrated with influenza virus, there is a tremendous variation in individuals. Some people have high antibody titers, while others show slight to moderate antibodies and some individuals, none. Most children have no antibodies to the influenza virus. The blood serum found will either show a very high antibody titer or they have no antibodies. Most individuals with a high antibody titer in their serum are subject to herpes infection, while those individuals who have no antibodies in their serum are not subject to herpes infection, and it is very nearly impossible to inoculate these individuals with herpes as has been shown by Burnett.⁴

Since herpes simplex corneae is one of the commonest types of corneal ulcer, you are all familiar with this so-called dendritic ulcer of the cornea. We know that there are many individuals who are subject to dendritic ulcers of the cornea and may, or may not, give a history of herpes labialis. There are other individuals in whom

herpes corneae develops and a secondary disciform type of keratitis will subsequently develop after the dendritic ulcer has more or less run its course. Also some individuals develop a type of uveitis secondary to this corneal ulcer. There are also types of corneal ulcer which are recurrent. These individuals have had an attack of herpes keratitis and develop a type of recurrent vesicular type of keratitis. This type is sometimes called keratitis metaherpetica. It is fairly common and is associated with a hypoaesthesia which is usually pronounced and there is a strong neuropathic element present. This phase is rarely associated with the dendritic figure but consists of small round oval ulcers with a scalloped border. At times the epithelium in these cases is only loosely attached to Bowman's membrane.

The virus is isolated very easily from most of the herpes lesions with the exception of the metaherpetic lesions, which have been reported as negative by Kuchner⁵ in 1933 and Gundersen⁶ in 1936. The conjunctival epithelium, however, and the cornea both contain the virus. It is, however, in a fixed state and in section shows the Lipschutz corpuscles or the intranuclear inclusions. These individuals, however, have very high antibody titers circulating in their serum and on one individual I have been able to isolate the herpes virus through scrapings from the conjunctiva and cornea, inoculated into tissue culture and subsequently into mice.

There are, then, four types of herpes simplex infections in the eye. The most frequently seen variety consists of the dendritic ulcer which occurs at almost any place in the cornea. It seems to be slightly more frequent near the central portion or just at the lower border of the upper lid where it crosses the cornea. This type of keratitis is the best variety on which to evaluate treatment, since it usually clears spontaneously or will respond to any type of local therapy. The history of this type of keratitis is interesting since it probably follows the pattern of most of the types of herpes labialis seen. It appears that at the same time as the infantile stomatitis occurs, a conjunctivitis probably occurs in the eye. This conjunctivitis in the infant is a rather severe type but usually heals. However, the virus is present in the conjunctiva for the rest of the individual's life. Then, with any intercurrent infection, such as an upper respiratory infection, or an influenza, malaria or even a mild inflammation, the typical dendritic figure may be produced and will run a course of approximately two weeks and clear up entirely without leaving any scar on the cornea.

The second type are those individuals who are subject to herpes labialis. These individuals, on rare occasions, develop a herpes corneae by accidental infection from their own mouths or from another herpes virus from elsewhere. When they develop the herpes corneae it usually starts as a dendritic figure with the fissures in the epithelium of the cornea. However, they usually produce a deeper stromal type of keratitis as well; this group, then, is the variety in which the dense disciform keratitis is produced. This type of keratitis is very difficult since so many of them have a tendency to develop the disciform type of keratitis in spite of treatment. The virus gains access to the stromal cells and may even be associated with an iritis.

The third type is relatively uncommon. It usually occurs in younger individuals and children and is a hyper acute keratoconjunctivitis in which there is edema of the surrounding skin with a marked conjunctivitis, ulceration of the lid border and the dendritic keratitis. This variety runs a course of approximately three weeks and usually does well, since the cornea is secondarily involved after the conjunctiva. This type usually shows very little, if any, effect from treatment. They may, or may not, respond to the various types of therapeutic agents.

The fourth variety is the metaherpetic lesions which are usually severe. The virus may enter the cornea and get into the stroma and into the eye producing a uveitis. Fortunately this type is very rare, but does occur, and it may occur associated with any of the other three types of keratitis.

We recognize that herpes of the cornea will clear entirely without treatment, although there is considerable controversy regarding treatment. Gundersen⁶ has stated that he has seen a number of cases of herpes cornea that were self-limited. For the most part, these patients are the individuals who respond well to treatment and have had a herpes conjunctivitis in infancy and carry the virus in their eye the rest of their lives. They have repeated attacks of keratitis with the development of a dendritic figure or a superficial type of vesicular keratitis. This type of keratitis will usually leave no scar on the cornea although there is occasionally a small round nebula in Bowman's membrane beneath the area of epithelial change. This group of patients also have repeated attacks, and whenever any outside stimulation occurs, such as a cold or an upper respiratory infection or influenza or just certain changes that occur in the body by anxiety or other circumstances, will produce the lesion. If all the patients treated were in this group, then

the results of treatment would be excellent, since all of them heal spontaneously. One of the most important points is that many of these patients do not give a history of having herpes labialis. Instead of their developing herpes labialis, they develop herpes corneae.

The second group occurs in patients in which there is a history of herpes labialis. In this instance, the primary infection is in the mouth. Most commonly these individuals may have infrequent attacks of herpes labialis, and the inoculation of the eye is secondary. The secondary inoculation of the eye may be accidental from their own mouth or from the herpes virus elsewhere. It is usually their first and initial attack of keratitis, but this attack is usually very severe. It usually begins as a dendritic ulcer but gradually spreads and in spite of treatment usually develops a dense infiltration of the corneal stroma beneath the ulcer. These patients usually develop the typical disciform type or irregular disciform type of keratitis with marked edema of the cornea. The keratitis may remain dormant for long periods of time, but will recur with, or without damage, to the overlying epithelium. When these recur, they usually recur as an edema of the stroma with wrinkling of Descemet's membrane and an associated iridocyclitis. The disciform may become larger after the lesion quiets down. The evaluation of treatment in this group of patients is difficult. Iodine may be the most useful in this group, but even with it there may be an increase in the size of the corneal opacity after the iodine has been used on the ulcer. This group also develops the metaherpetic type of keratitis in which there is considerable pain with recurrent erosion and hyposensitivity of the cornea. Quite often there is considerable anesthesia of the cornea with recurrent attacks of pain, with or without the corneal ulceration.

The third group is a primary infection of the conjunctiva and cornea and is clinically very difficult to distinguish from epidemic keratoconjunctivitis, in that it is a hyper acute keratoconjunctivitis. Differentiation is made largely on the fact that there are frequently small ulcers on the lid border. It is associated later in the disease with the development of a dendritic figure usually over the lower half of the cornea. There is an associated preauricular lymphadenopathy and many times, to begin with, a superficial punctate type of keratitis. This is one of the types in which Maumenee described as being similar to epidemic keratoconjunctivitis. They may or may not develop stromal changes. If these changes develop, there may be an associated iridocyclitis. They do, however, usually

run a course of from three to six weeks, during which time there is considerable pain, and there may be loss of the eye or severe damage to the eye.

The present study is divided into two groups: the clinical and the experimental group. The experimental group was subdivided into the inoculation of rabbits and mice. I have presented some of this material in a previous paper.⁷

In the first group of mice, aureomycin was given intraperitoneally to mice prior to the inoculation with herpes virus. Two mg. of aureomycin were injected intraperitoneally the day before inoculation. The mice were then inoculated intracerebrally in serial dilutions 10-2 to 10-5. Twenty-seven per cent of the treated mice in 10-2 survived; 37 per cent in 10-3; 60 per cent in 10-4 and 85 per cent in 10-5. Controls in each of these series did not show any survivals until 10-5, where 45 per cent of the inoculated mice survived. The dilution factor in the control mice was 10-4.5. This showed that aureomycin was moderately effective in the protection of mice against inoculation with the severe challenge of intracerebral herpes virus.

In the second group aureomycin borate was mixed with herpes virus in dilution of 10-1. After this material had been allowed to stand in the incubator for one hour, it was inoculated intracerebrally in mice. Without the addition of aureomycin, 10-1 killed all the mice in four days. Fifty per cent of the mice survived with the aureomycin borate mixed with herpes virus. This suggested that there was some deterioration of the virus by aureomycin borate.

The third test with mice consisted of the treatment with aureomycin, two mg. per day, 24 hours after the inoculation of the virus. Thirty per cent of the mice in 10-3 dilution survived, whereas 100 per cent of 10-3 dilution control series were dead.

Inoculation of rabbits' cornea with herpes virus produces a very severe infection on the rabbit, the rabbits usually die from nine to 20 days after the corneal inoculation. The keratitis usually develops from three to seven days after inoculation by three scratches on the cornea and then inoculating the rabbit's cornea with 10-1 dilution. When aureomycin borate is mixed with herpes virus in 10-1 dilution and inoculated on the rabbit's cornea, no keratitis develops. However, when herpes is mixed with bacitracin, penicillin, normal saline and other substances, the virus is not destroyed. If 24 hour inoculated rabbits' corneae are treated locally with aureomycin borate drops in the eye every hour and 100 mg. per kilo intramuscularly and intraperitoneally

daily, then 80 per cent of the rabbits will survive the infection, whereas from 80 to 100 per cent of the rabbits die from the infection in the control series. Keratitis may develop, but the keratitis runs a less severe course and may even disappear as it did in approximately one-half of the rabbits.

From this evidence it would appear that something in the aureomycin borate was moderately effective against the herpes virus.

Clinical treatment of dendritic keratitis can be reported as follows: 32 cases of dendritic keratitis have thus far been treated with aureomycin borate and aureomycin ointment. In 14 of these patients the ulcer was healed in 24 hours, and there was no increase in the size of the infiltrate beneath the ulcer. In most instances the infiltrate disappeared entirely. In nine patients with dendritic keratitis, the ulcers remained the same size after the treatment was continued from five to eight days with aureomycin borate, during which time the area of staining of dendritic ulcer remained localized, but did not increase in size. Subsequently six of these patients developed a disciform keratitis and a severe uveitis. They all had edema of the cornea and wrinkling of Descemet's membrane before iodine was used, and perhaps it would have been better to have used iodine on these patients earlier.

Nine patients were treated for less than five days with aureomycin and showed no beneficial results so that the corneal epithelium was removed and iodine placed on the cornea. This group showed iodine treatment satisfactory and although some of the patients have infiltrates in the stroma, there is little visual disturbance at the present time.

In the treatment of the metaherpetic lesions, the results have been somewhat more gratifying. In these patients a one mg. aureomycin ointment has been used four times a day in the eye. In spite of the fact there is considerable pain and periodic breaking down of the lesion, the pain usually disappears and the cornea does not stain after the use of the ointment. Three patients with metaherpetic keratitis have been thus treated with aureomycin ointment. Two have responded well and although one patient still complains of considerable pain, there has been no staining of the cornea since aureomycin ointment has been employed.

Evaluation of Treatment With Aureomycin

When a dendritic ulcer of the cornea is seen, it is not possible to give an accurate prognosis as to the effect of aureomycin borate or aureomycin ointment on the lesion since there are four groups of patients to be treated. If aureomycin

is used in the first group described, that of recurrent herpes lesions, the chances of success are excellent. Here the ulcer is usually healed within approximately 24 to 48 hours, and there is usually no pain after the initial instillation of the antibiotic.

In the second group of patients in whom it is usually the first attack of keratitis, the ulcer will usually remain dormant for a period of several days and show little evidence of healing; after about five to seven days there will be some evidence of decrease in size. Some of these patients may develop infiltrates in the stroma and may actually develop an edema of the stroma during the period of treatment. From my experience at the present time I do not feel that when there is edema of the cornea and wrinkling of Descemet's membrane it is wise to cauterize these with iodine since the majority of those with edema of the stroma show considerably more tendency to the development of a disciform keratitis than if they were handled by aureomycin ointment or drops and patching. When the edema disappears and the ulcer is still present, then the epithelium of the cornea may be cauterized with 3½ per cent iodine. In some of these patients I have prepared a Lugol's ointment to use during the period while on treatment with aureomycin solution. A one per cent Lugol's solution is prepared in white vaseline and lanolin base and used at night while the eye is patched, but during waking hours aureomycin is used in the eye. The results of this form have been fairly satisfactory, particularly in the second group of patients with edema of the cornea.

The third group of patients will usually develop a disciform keratitis in spite of anything that is done and it is impossible to evaluate these patients before treatment. Usually they give a history of repeated attacks of herpes labialis and the corneal ulcer may develop spontaneously during or following one of the attacks of herpes labialis. In these instances they develop the edema of the cornea and have a uveitis which persists for a long period of time. These cases frequently require repeated application of iodine.

Discussion

E. Harold Reuling, M.D., Waterloo: Dr. Braley's scholarly paper presents the ever widening application of the newer antibiotics and extends the observations he originally made in 1948.¹ His experimental work on animals is illuminating, and his classification of herpetic lesions of the cornea gives us a theoretical basis of treatment. In practice I have treated all dendritic ulcers with iodine and most of them would get well promptly. An occasional one would resist iodine mud, padding, foreign

protein, penicillin and all other forms of treatment, and after a prolonged period of associated iridocyclitis would finally heal with considerable damage to vision from deep corneal scarring. It seems that in this type of case Dr. Bailey offers as a much needed therapeutic aid.

Bellows, Richardson and Farmer found the use of a 0.5 per cent solution of aureomycin borate produced no corneal damage if used every three to four hours but did produce small corneal defects if used every 15 to 30 minutes; all corneas healed without permanent damage when the drug was stopped. It did not penetrate the intact cornea but did penetrate the abraded and inflamed cornea. In their work, aureomycin did not influence the course of experimentally produced vaccinia keratitis in spite of its seeming effectiveness against certain viruses including the herpetic and keratoconjunctivitis viruses.

Recently I have used a 0.5 per cent solution of aureomycin borate on three stubborn cases of dendritic keratitis. All of the cases had resisted the usually effective iodine mud cautery—one for two weeks, one for five weeks and one for two months. In each instance the cornea continued to stain deeply in the same location. Each case improved from a symptom standpoint in 36 hours, and healing occurred in four, seven and ten days respectively after starting aureomycin and discontinuing all other treatment.

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SPECIAL ARTICLE

TRENDS IN INTERNAL MEDICINE —1949

Daniel A. Glomset, M.D., Des Moines

Review articles may offer material of two general types: regurgitated or predigested. The "regurgitation" articles parrot the findings of one author after another and are boring to read. The "predigested" articles attempt to analyze the progress in a particular field. Such analysis is subject to error of author interpretation. In this article the material has been "partially digested" in the hope that the readers' enzymes will conclude the assimilation.

Tremendous changes have come to pass in internal medicine in 1949. Some were really new. Some had their origins in the past and were popularized in 1949; some changes were just new to the author. According to *Science News Letter*, four of the ten "Oscar" awards for science of all types in 1949 were in the field of internal medicine, namely (1) the development of cortisone and ACTH, (2) the use of antihistamines to relieve the symptoms of the common cold, (3) the demonstration of dramamine in the relief of air and seasickness and (4) the chemical synthesis of chloromycetin. So medicine is leading the pack in progress.

Trends in internal medicine can best be divided into (1) physiologic concepts, (2) diagnostic methods and (3) therapeutic methods.

Physiology

The persistence of Kendall and the perspicacity of Hench have exposed rich new veins of understanding of physiologic processes. ACTH and cortisone are for the present, however, tools for investigation rather than treatment. The rapid development of these substances during 1949 has led to a theory which may be epitomized as follows: an adrenocorticotrophic hormone (ACTH) is secreted by the pituitary gland either primordial or as a result of stimulation from the hypothalamus. ACTH stimulates the adrenal cortex to secrete its steroids, one of which is compound E or cortisone (crystallized years ago by Kendall). Cortisone has profound effects on the body economy and probably acts primarily on cellular metabolism. In altering cellular metabolism, it affects endocrine systems, enzyme systems, immunological responses and neuromuscular metabolism. Specifically, ACTH and cortisone produce a reticulocytosis and a fall in circulating eosinophiles and lymphocytes. Large doses produce sodium retention, potassium deficiency, mild diabetes, alteration in fat metabolism, androgenic effects, alteration of pepsin secretion by the stomach and of arginase in the liver and inhibition of the posterior pituitary and thyroid functions. They affect the course of many diseases and appear to be of most value in Addison's disease, panhypopituitarism, idiopathic hypoglycemia, allergic disorders, acute rheumatic fever, gouty arthritis and eye diseases such as iritis and uveitis. They may be useful in rheumatoid arthritis, disseminated lupus, dermatomyositis, chronic ulcerative colitis, periarteritis nodosa, the nephrotic syndrome, anorexia nervosa, multiple myeloma, psoriasis, acquired hemolytic jaundice and terminal ileitis. They are of questionable value in scleroderma, thyrotoxicosis, pemphigus, tubercu-

losis, pneumonia, osteoarthritis, myasthenia gravis, multiple sclerosis, nephritis, pernicious anemia, Paget's disease and some liver diseases.* All workers are agreed that their therapeutic use is in its infancy. We practicing physicians must await the crystallization of their ideas, hopeful that this new vein will prove as rich as the bacteriologic era of the late 19th century.

Diagnostic Methods

The variety and increasing definitiveness of our newer diagnostic procedures require huge laboratory staffs and expensive equipment. In order to interpret these diagnostic methods we must not only be physicians but biochemists and physical chemists as well. Few of us have the fancy equipment necessary to practice this new type of top grade medicine, but we must be cognizant of the existence and value of the newer methods so that our patients may be given the benefit of these new procedures should the occasion arise.

Serologic Tests

1. Potassium:^{1, 2, 3, 4} Extra and intracellular potassium may be so profoundly modified in diabetic coma, intestinal obstruction, postoperative states, renal disease and Addison's disease, that death may result. Accordingly, we must be aware of potassium levels in the blood in order to determine the correct treatment of the patient. Present routine laboratory analyses are laborious and time consuming. In order to be of clinical value the serum levels must be known rapidly. Serial electrocardiograms give such rapid qualitative estimates. With low plasma levels there is low QRS voltage, low or inverted T waves, depressed S-T segments and long Q-T intervals. With high serum levels there are absent P waves, wide QRS intervals and high, peaked T waves. Another instrument, the Flame Photometer, gives quick quantitative values for potassium and other electrolytes. This instrument is expensive and requires an expert technical staff, but values are reliable.

The laboratory investigators are confusing the practitioner by expressing plasma values of electrolytes in terms of *milliequivalents* instead of *milligrams*. I can see no reason for this new yardstick for sodium and potassium, but it is useful for quoting values of larger radicals such as SO_4 .** We will need to learn a new set of normal values for many substances: for example, the normal serum potassium is now expressed as 3-5

*Thorne, in lecture at ACP meeting, Boston, 1950.

**A milliequivalent weight is one-thousandth of the atomic weight of the atom or radical divided by the amount of that radical.

milliequivalents, whereas the old value was 16-22 mg. per cent. The conversion is engineered by multiplying atomic weight of potassium (39) by the valence (1) by the number of milliequivalents (3-5) in the serum.

2. Serum Protein Determinations:^{5, 6, 7} Our tools for measuring serum proteins are crude. We can measure albumin, globulin, fibrinogen and prothrombin. Efforts have recently been directed toward further differentiation of serum proteins. One instrument for such analysis gives the electrophoretic pattern of proteins in the blood. With this method a photograph is made of an electrical impulse passing through a given serum. This photograph resembles an electrocardiogram with peaks and valleys. Much can be learned from this method about the quantity and quality of proteins in the blood. For example, an acid protein component of plasma has been found to be elevated in patients with gastric and pulmonary carcinoma, leukemia and Hodgkin's disease. The investigators are able to state by means of the electrophoretic pattern that this protein is similar to the alpha globulins but is not hyaluronic acid or "fetuin." They mention "haptoglobulins," "mucoproteins" and many different types of serum protein of which we have never heard. Another article⁵ mentions that in multiple myeloma the characteristic feature of many cases was a "tall, narrow, abnormal peak migrating more slowly than gamma globulin." These electrophoretic studies should acquaint us with patterns of serum protein characteristic of different infectious and neoplastic diseases and with many new types of protein hitherto dormant.

It has been known for some time that serum proteins are altered in cancer (this is the basis of increased sedimentation rate in cancer). Such altered proteins may be enzymes (phosphatase in prostatic cancer), enzyme inhibitors (antitrypsin and hyaluronidase inhibitor), or non-enzymatic plasma proteins. Serologic tests are appearing which help to bring these abnormal proteins to light, and these tests may prove of value in the diagnosis of cancer. Fortunately some are so simple that they may be used by all of us.^{6, 7} The reducing power of albumin (due to sulfhydryl group) is diminished in cancer and is the basis of the "methylene blue" (Savignac), "iodoacetate" (Huggins) and heat coagulation tests (Black). If two or more tests are used simultaneously, diagnostic error may be decreased. We are using some of these tests and finding them simple and interesting.

In periarteritis nodosa⁸ a new serum protein

has been announced which may be tested by cooling the serum to four degrees.

3. Heart Diagnosis: Three new jumps have occurred in cardiac and peripheral vascular diagnosis. (1) angio-cardiography is a study of vessels and cardiac chambers by the introduction of diodrast or neoipax into the blood stream.^{9, 10, 11, 12, 13} With this method cardiac, pulmonary, cerebral, intra-abdominal and peripheral vascular anomalies may be studied with little danger to the patient. This method of study is being used in several places throughout the state and has proven of much value in diagnosis and treatment of disease processes, such as congenital cardiac abnormalities, aneurysms and pulmonary and cerebral tumors. (2) For further definition of vascular abnormalities, vascular catheterization may be employed.^{14, 15} Forssmann catheterized his own heart in 1929. Cournand popularized the method in 1941, and 1949 has seen this method established in aiding the diagnosis of acyanotic cardiac conditions such as coarctation of the aorta, idiopathic pulmonary hypertension, interarterial septal defect, interventricular septal defect, patent ductus, cyanotic conditions as tetralogy of Fallot, common atrium, with tricuspid atresia and other cardiac abnormalities. It may also be used to study hepatic physiology with the catheter in the hepatic vein and in retrograde arteriography of the abdominal and renal arteries. The benefits of this new method are that blood may be withdrawn from a given region for analysis, and radio opaque material may be injected into a designated area. It has opened up new possibilities for the recognition of many congenital defects, for the elicitation of hemodynamic changes and for better selection of cases for surgery. (3) The direct writing electrocardiograph¹⁶ is proving much simpler and almost as satisfactory as the older photographic type. The occasional differences between simultaneous tracings taken with the two instruments are slight, clinically unimportant and rarely alter the interpretation made. The Cambridge direct writer, new in 1949, is only being distributed to those who already have the photographic instrument, but the Sanborn is sold to all who have the wherewithal. The experts say that we no longer need the limb leads now that the precordial and unipolar leads are available. I am awaiting the day when the diagnosis comes out printed on a ticker tape.

The diagnosis of hypertension due to the diencephalic syndrome or pheochromocytoma is now being made easier by injection of various substances; histamine as noted by Roth and Kvale in 1945 and benzodioxane as established by Snyder and Vick in 1947. The latter drug is pref-

erable to histamine in that it produces fewer untoward reactions. The test may be used by any of us and consists of intravenous injection of the drug and measurement of the blood pressure. With adrenal medullary tumors there is a rapid fall in blood pressure (adrenolytic) whereas in the diencephalic syndrome the reverse is usually true.

Treatment

Nineteen hundred forty-nine has added its share of long names to the bewildering array of new medical bullets available to the physician in the arms race against disease. Such words as dihydrostreptomycin, para amino salicylic acid (PAS), para amino benzoic acid (PABA), subtilin, bacitracin, polymyxin, chloromycetin, aureomycin, caronamide, anti reticular cytotoxic serum, pteryl glutamic acid conjugates, aminopterin, stilbamidine, urethane, nitrogen mustards, adrenocorticotrophic hormone (ACTH), cortisone, orthoxine, isuprel, trimeton, methadone, dolo-phine, vitamin B₁₂, chloroquine and hesperidin methyl chaconone are a few of the new entries. Some were discovered in 1949, some have undergone continued study, some were rejected. The busy clinician is beholden not only to memorize the names, but the indications, contraindications and undesirable side effects of each drug. The avowed purpose of this article is to give a brief digest of the prevailing usages of some of the above mentioned drugs.

Antibacterial Chemotherapy

One excellent review article summarizing prevailing concepts of antibacterial agents by Goldstein¹⁷ will afford detailed information to the clinician.

Caronamide^{18, 19, 20} and benemid may be given by mouth to block the excretion of penicillin by the kidney and thereby produce higher blood levels, two to fourfold, of penicillin. Caronamide appears to be nontoxic. It may be given to combat highly resistant organisms or when penicillin must be administered orally. The use of such blocking drugs is limited now because the low price of penicillin permits the use of massive doses.

Aureomycin in Virus Infections

In 1949 we were given our first drug which was somewhat effective in the treatment of virus diseases. It seems well established that aureomycin is of distinct benefit in atypical pneumonia.^{21, 22, 23} Meikeljohn²³ is to be especially commended for his controlled study. He used alternate cases treated with penicillin (controls) and aureomycin. We need more of this type of

experiment in this day and age of enthusiastic claims. There is a lack of obvious rationale in treatment of virus infections with aureomycin but fundamental understanding often lags behind practical employment of drugs. Aureomycin has also been used with suggested benefit in other viral diseases such as lymphogranuloma and infectious mononucleosis, and it seems to me that it is of much more benefit in the ordinary "lay flu" than the "miracle" antihistaminics. Aureomycin, of course, is also of great value in streptococic and staphylococic infections, in brucellosis²⁴ and in Rocky Mountain spotted fever and typhus.

We are now told that the aluminum hydroxide products used concomitantly with aureomycin to lessen gastric irritation incident to the aureomycin also inactive approximately 60 per cent of the drug.

Chemotherapy of Tuberculosis

Coincident with the decreasing use of pneumothorax in tuberculosis has come the judicious use of chemotherapeutic agents, streptomycin, dihydrostreptomycin, para-aminosalicylic acid (PAS) and tibione.^{25, 26, 27} In experimental tuberculosis both streptomycin and PAS are effective, and if both are used together the effect is greater than if either is used alone. Dihydrostreptomycin is not the innocuous drug the medical profession had been hoping for, and it is hoped that one day it may be discarded altogether. Although VIII nerve toxicity is less with dihydrostreptomycin than streptomycin so also is the efficacy against the tubercle bacillus. In human tuberculosis there seem to be definite advantages and no disadvantages to combined treatment with the mold and PAS. The lesions which are most easily affected are naturally the exudative lesions; the chronic fibrotic types are notoriously disappointing. The PAS acts by cutting down oxygen consumption of the tubercle bacillus and little if any tolerance to the drug develops.

The German drug tibione is also one of great promise and it is hoped we will hear more of this in 1950.

Rickettsial Diseases and Typhoid

The rickettsial diseases, epidemic typhus, Rocky Mountain spotted fever and Tsutsugamuchi disease have heretofore been recalcitrant to treatment. We now have para amino benzoic acid²⁸ and chloromycetin as potent agents against this type of infection. The action of the PABA is thought to be due to the inhibition of a poorly understood enzyme system of the organism by which growth and multiplication is inhibited. Chloromycetin has been synthesized by Parke

Davis & Company and is also effective against the spectrum of diseases similar to Streptomycin with the omission of tuberculosis and the addition of typhoid fever. Sketchy reports^{10, 29, 30, 31, 32, 33, 34, 35, 36} are filtering through of wide promise for chloromycetin in diseases such as herpes zoster, virus pneumonia, gonorrhea, infectious mononucleosis, syphilis and brucellosis. The coming years will separate the wheat from the chaff in these reports.

Chemotherapy of Malignant Disease

Since World War II some of the guns of internal medicine have been directed against the malignant diseases. It seems as though we must disagree with the Russians even in medical fields, for their claim of inhibition of carcinoma growth by a splenic extract, ACS (anti reticular cytotoxic serum) is apparently unsubstantiated and the material almost if not entirely worthless.^{37, 38, 39, 40}

Although the substances produced on the western side of the Iron Curtain do not cure neoplasm, they apparently are deterrents to growth and a step in the right direction. Eight groups of these substances have been found to be of value.⁴¹ (1) P_{32} is being used with decreasing frequency in leukemia. In polythemia it is one of the drugs of choice. (2) I_{131} may be of value in functioning thyroid carcinomas. Non-functioning metastases may be made to function following thyroidectomy. The functioning metastases are then susceptible to I_{131} . These radio active drugs should be administered in centers with established isotope units, but we physicians must be acquainted with the therapeutic indications so as to afford our patients the opportunity of attending such centers. (3) The nitrogen mustards were first advocated as chemotherapeutic agents in 1942. In 1949 the consensus seemed to be that they were of most use in recalcitrant cases of Hodgkin's disease.^{41, 42, 43} These agents arrest mitosis by affecting the synthesis of nucleic acid⁴⁴ but have too deleterious effects on the host to warrant general use. (4) Urethane has been used in mycosis fungoides, multiple myeloma and chronic leukemia. The latter seems to give the best results although the question of prolongation of life has not yet been determined.⁴¹ (5) Stilbamidine is another new drug⁴¹ which depresses serum globulin and has therefore been used in multiple myeloma. The consensus seems to be that the drug produces relief of bone pain in 80 per cent of cases but fails to halt the progress of the disease. (6) Folic acid antagonists (aminopterin) have been used in acute leukemia and the remissions produced seem to be better than with any other agent,⁴⁵ but that is not saying much.

Some one-third of patients with acute leukemia⁴¹ are temporarily benefited. A new compound, methopterin, seems to act more preferentially on neoplastic cells than does aminopterin.⁴⁶ (7) Androgens⁴¹ are of marked value in controlling bone metastasis in mammary cancer particularly in premenopausal women. The question of prolongation of life has not yet been determined. Large doses are advocated (100 mg. tri-weekly for eight to ten weeks) but smaller doses are often effective. (8) Estrogens are also of therapeutic value⁴¹ in mammary cancer after the menopause and exert their effect by affecting regression of soft tissue and bone metastasis. Fifteen mg. of stilbesterol are given daily. The millenium in cancer therapy is still far distant but we are learning much about the pathologic physiology of neoplasms which may enable us in later years to cure cancer.

Adrenocorticotrophic Hormone and Cortisone

Although 1949 witnessed many attempts at cure or treatment of disease^{47, 48} with these powerful hormones, indications and contraindications are not sufficiently established to warrant their routine use. It is fascinating to conjecture, however, that one day we may be treating asthma, pneumonia, arthritis, acute rheumatic fever, uveitis, gouty arthritis and many other diseases by these hormones. Perhaps 1950-51 will see us beginning to use them.

Allergic Disorders

Until ACTH becomes practical, we will continue to seek new compounds in treatment of the allergies. One homologue of epinephrine, isopropyl epinephrine (aludrin, isuprel) seems to be of some increased value in early treatment of acute asthma when the drug is administered as a 1:200 spray. Twelve of 15 patients⁴⁹ preferred it to adrenalin in treatment of acute asthmatic conditions. When administered as a pill or injection the effects are not as good as with more time honored products.⁴⁴ Orthoxine is a drug similar to effedrine but less prone to undesirable side effects. It appears to be less effective than effedrine, however, as only 10 of 28 patients preferred orthoxine to effedrine. However, with the allergies it is always pleasant to have a new drug to use. The antihistaminics have been besieging us for the past year or two. The best drugs are thought to be trimeton,⁵⁰ decapryn, pyribenzamine, thephorin and benadryl. Poorer drugs are neoantergan, hydrallin, antistine and neohetramine. They are most effective in urticaria, angioneuratic edema (82 per cent) and allergic rhinitis (75 per cent).⁴⁴ The reason for

lack of success in such conditions as asthma, allergic dermatoses and drug allergy is not clear but it may be that higher quantities of the antihistaminics at the "shock areas" may be needed. Search continues for more desirable compounds.⁵¹

Hypertension

The treatment of hypertension remains unsatisfactory but two new methods have appeared since the war. (1) The Rice Diet^{52, 53, 54} has had the ups and downs of many new treatments. The rice diet, low in sodium, is no panacea. Strict adherents to the diet achieve a significant drop in blood pressure in 37 per cent of cases and moderate adherents in 15 per cent of the cases.⁵⁵ Some authors⁵³ conclude that the rice diet is of questionable value and may be harmful. (2) A new treatment originated by Page⁵⁵ has achieved much unwarranted publicity in the tabloids. Little has been written in medical publications. The pyrogen treatment of hypertension has the intriguing background that fever is often associated with depression in blood pressure. The University of Iowa is at present investigating the possibility of treating cases of malignant hypertension (those with papilledema and exudates in the retina, plus severe hypertension plus hematuria and proteinuria) with fever in order to test the efficacy of the pyrogen treatment. A pyrogen (pyromen, Baxter) is given by intravenous injections, five to six weekly, in amounts needed to cause a temperature rise of 103° to 104° each day. Page⁵⁵ has treated 20 patients with such malignant disease, most of whom with supportive treatment would be dead within two years of onset of the above mentioned serious findings. Of these 20 patients, five discontinued treatment voluntarily, four of these five are dead. One has not been re-examined. Of the 14 others, nine have lived for an average of 32 months and are leading useful lives, five are dead. This treatment seems to be a step in the right direction, although admittedly not ideal.

Vitamin B₁₂

Although the isolation of vitamin B₁₂ was announced in 1948, 1949 has seen the progress of understanding of its usefulness. It appears that vitamin B₁₂ is contained in liver extract in parallel strength with the unitage of the extract and indeed that the vitamin now crystallized is the active extrinsic factor. The identity of the intrinsic factor remains undetermined. Vitamin B₁₂ is useful in those cases which are sensitive to liver extract⁵⁶ and, although marked improvement has been reported in combined system disease,⁵⁷ it is probably no more effective than liver extract alone. The minimum effective dose is one

microgram daily. The drug appears to be ineffective when given orally.

Kolff Kidney

An intriguing but expensive gadget has appeared on the scene, the Kolff Kidney.⁵⁸ The Kolff Kidney is a dialyzing chamber through which a large amount of the patient's heparinized blood is passed. The chief usefulness is in the treatment of acute uremia caused by non-obstructive nephropathies. Materials with a molecular weight of under 35,000 are removed from the blood. Blood urea can be dramatically lowered with this instrument, and the procedure seems to be easier on the patient than dialysis which occurs within the patient, as with intraperitoneal lavage. There is no doubt that several patients' lives have been saved by use of this apparatus.

Ameboidal Drugs

The exposure of our troops to amebic dysentery has made the Midwestern physician more conscious of tropical disease. Two new and similar drugs are on the market, aralen (Chloroquine) and milibis.⁵⁹ Aralen, a safe and effective drug for parenteral amebiasis, is at least as effective as, and less toxic than, emetine. Milibis is used for the enteral form. Both drugs may be given orally and should permit wider use of anti-amebic treatment as diagnostic and therapeutic tests in obscure infections of the liver and colon.

Synthetic Analgesic Drugs

Although a decade has passed since the discovery of meperidine (demarol) it seems fitting to review^{56, 60} the relative merits and disadvantages of demarol, dolophine (methadone) and morphine—all three relieve pain, but demarol is one-tenth as potent as morphine and one-twentieth as potent as dolophine. Demarol has the lowest addiction liability. Dolophine provides an euphoria nearly as satisfactory as morphine and can be substituted in an addict without fear of its recognition as the abstinence syndrome is milder with dolophine than morphine. To date there is no report of a primary addiction to methadone. Sedation is more pronounced with morphine than with demarol or dolophine. Small doses of dolophine suppress cough but frequently produce nausea and vomiting. Demarol has only a slight effect on cough. Demarol increases smooth muscle tone but neither it nor dolophine produce constipation. Nausea and vomiting occur with toxic doses of all three and all depress respiration in lethal doses, but morphine only in therapeutic doses. Demarol does not depress infant-in utero respiration. Demarol produces more flushing.

sweating and dryness of the mouth but less pruritis than morphine.

Parenteral Feedings

Under unusual environmental or pathologic conditions intracellular potassium leaves the cell. Loss of intracellular potassium in periodic familial paralysis and in infantile diarrheas result in depletion of body stores of potassium. Patients recovering from diabetic acidosis, and those in alkalosis as a result of intestinal obstruction, nephritis or in certain postoperative states have low serum potassium. These individuals may need potassium therapy. Potassium may be given by injection of a two per cent solution of potassium chloride or by the administration of four grams of potassium citrate by mouth.

In alkalosis, ammonium chloride may be given intravenously, but the rate of administration must be slow in order to avoid toxic results.

Interest in parenteral protein administration seems to be lagging. The most physiologic of the derivatives, salt poor human albumen, has failed to give decisive therapeutic results. Indeed it is difficult if not impossible to increase serum protein with parenteral proteins or their derivatives in any large group of protein deficient individuals.

Summary

In summary, medical diagnosis and therapeutics have made tremendous strides since the war. 1949 has contributed its share in this advance. It is up to us practicing physicians to speed up our reading to allow our fundamental concepts of disease to be altered and to give our patients the benefit of new procedures now at our disposal.

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(Continued on page 509)

STATE DEPARTMENT OF HEALTH

Walter Diering

IOWA BIRTHS, DEATHS AND MARRIAGES Higher in 1950 than in 1949

A count of the number of birth, death, marriage and divorce certificates filed with the Division of Vital Statistics during the first seven months of this year indicates that, when compared with the similar period of last year, there has been an increase in all four types of vital events.

The data are as follows:

Number of Vital Events Reported in Iowa

	First 7 Months 1950	First 7 Months 1949	Increase 1950 over 1949
Births	35,104	34,626	478
Deaths	15,874	15,303	571
Marriages	14,573	13,996	577
Divorces	3,046	3,040	6

These data represent a 1.4 per cent increase in births, a 3.7 per cent increase in deaths and a 4.1 per cent increase in marriages. The increase in divorces obviously is relatively insignificant.

The highest peak in the number of births occurring in Iowa was in 1947. These preliminary 1950 data indicate that the number of 1950 births will rank second to this 1947 peak.

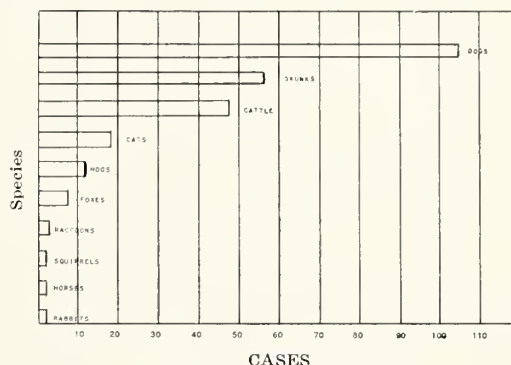
The data pertaining to deaths indicates that, unless there is a substantial decline in the number of deaths in the remaining months of the year, the 1950 death total will be the highest experienced in Iowa in more than a decade.

Marriages reached a post-war peak in 1946 and have been declining each year since. However, these preliminary 1950 figures would indicate a reversal of the downward trend in marriages. Marriages reported during July of this year amounted to 2,431 compared with 1,925 during July of last year, an increase of 506. Hence, it would appear that most of the upturn in the number of marriages appears to be associated with the Korean crisis.

RABIES IN WILD ANIMALS

The number of reported cases of rabies in animals in Iowa indicates that the disease is increasing. For the first eight months of this year 250 cases were reported from 56 counties. This is an increase of 28 per cent over the 195 cases

which were reported during the same period in 1949.



The bar diagram shows that more cases are reported in dogs than in any other species of animal. Because of the normally close association of the dog with man, it is the dog which is usually the cause of exposure of human beings to rabies. However, the reports of cases in animals indicates that the hazard caused by rabid wild animals is increasing.

Rabies is more often reported in skunks than in any other wild animal in Iowa. Other species of wild animals that have been found infected in the past year and a half are foxes, raccoons, squirrels, ground hogs, badgers and rabbits.

In Polk county, rabies continues to spread primarily among dogs. Of all the cases of rabies in dogs reported in the state, two thirds are reported from Polk county. In the state, outside of Polk county, there have been 33 cases in dogs as compared with 55 cases in skunks. Reports indicate then that outside of Polk county there is more skunk rabies than dog rabies.

Skunks with rabies have been reported from 33 counties in widely scattered areas of the state during the first eight months of 1950. They have been found in every month of the year but most of the cases are reported during the spring months. In 22 of these counties, in which there has been rabies in skunks, no cases in dogs have been reported. Thus it would appear that in some parts of the state there is a reservoir of rabies infection

of considerable size in wild animals without the occurrence of the disease in dogs. With such a reservoir of infection there is, however, an ever present danger of an outbreak among unvaccinated dogs. Of the total number of rabies cases in all animals reported, outside Polk county, 38 per cent of the cases have been in skunks. The importance of the disease in skunks thus becomes apparent. Both the striped skunks and the spotted skunks (sometimes called the civit cat or pole cat) have been found infected and for purposes of reporting are classed together.

Abnormal behavior is perhaps the symptom noticed most often in rabid skunks. The State Health Department frequently receives reports of skunks appearing in the hog or cattle lot or barn during daylight and attacking livestock. Not infrequently losses of livestock from rabies following such attacks are reported. In most instances, when the heads of these abnormally acting skunks are examined in the laboratory, evidence of the disease is found. Within the last few weeks two reports of rabid skunks attacking and biting human beings have been received.

While the number of reported cases in foxes is not large, the potential hazard of a rabies epizootic among foxes is believed to be great. The fox population in Iowa is high at the present time. Some states with a large fox population report a rather high number of rabies cases among these animals.

In the past the efforts to control rabies in animals have been directed mainly toward control of the disease in dogs. It is necessary that these efforts be continued.

Because of the reservoirs of infection in wild animals and the spread of the disease between various species of animals, other control procedures are also necessary. Concurrent efforts to control the disease in wild animals are needed. It is suggested that, when a colony of wild animals is known to be infected, the entire colony be destroyed. The State Conservation Commission is interested in controlling disease in wild animals and especially so when the health of man and his livestock is involved. Help on the problem may be obtained from the Conservation Officers located throughout the state. In case it is necessary to destroy a wild animal den, the Conservation Officer should be consulted first.

MAKE RESERVATIONS EARLY

Hotels making reservations for the 1951 Annual Meeting of the Iowa State Medical Society are the Martin, Warrior, Mayfair and West. Doctors should write directly to the hotels for their reservations.

MORBIDITY REPORT

Diseases	Aug. '50	July '50	Aug. '49	Most Cases Reported from:
Diphtheria	0	1	1	
Scarlet fever	6	9	2	Linn 2, others 1 to a county
Typhoid fever	2	0	0	Benton, Dubuque, 1 each
Smallpox	0	0	0	.....
Measles	11	109	31	Woodbury 4, others 1 to a county
Whooping cough	113	226	14	Blackhawk, Calhoun, Crawford, Polk
Brucellosis	14	34	28	Franklin 2, Muscatine 2, others 1 to a county
Chickenpox	15	87	4	Adair, Hamilton, Johnson, Woodbury
German Measles	0	3	3	
Influenza	0	0	0	
Meningitis, Meng.	3	6	0	Lee, Scott, Webster, 1 each
Mumps	13	50	98	Linn, Polk, Woodbury
Pneumonia	0	2	2	
Poliomyelitis	218	167	410	Linn 49, Polk 16, Story 10, Woodbury 7
Rabies in Animals	24	34	11	Polk 10, Cedar 3, Buchanan 2, Clinton 2, Jasper 2
Tuberculosis	60	47	53	For the State
Gonorrhea	108	73	59	For the State
Syphilis	160	183	183	For the State

FRACTURE CONFERENCE AT IOWA CITY

Dr. C. V. Larson, professor of orthopedic surgery at the University of Iowa College of Medicine, extends an invitation to any physician to attend the weekly fracture conferences held every Tuesday afternoon at the University Hospital in Iowa City. During the course of this conference, x-rays taken during the week are viewed, and an open discussion is held regarding the proper type of treatment necessary for maintenance of reduction.

MEDICAL STENOGRAPHY

A ten week course will be held at Cole Hall, Drake University, on Monday, Wednesday and Friday evenings from 8 to 9 p.m. Tuition, \$45. For information, enrollment blank and beginning date, contact private instructor, Mrs. Etta M. Miller, 1102 Douglas Avenue, Des Moines, Iowa. Telephone 3-4018.

SPEAKERS BUREAU RADIO SCHEDULE

WSUI—Tuesdays at 11:45 a.m.

WOI—Thursdays at 11:15 a.m.

- | | | |
|------------|---------------------------------------------------|-------------------------------------------------------|
| Oct. 3- 5 | Alcoholism as a Problem in Iowa | Ray Hainson |
| Oct. 10-12 | The General Management of Alcoholism as a Disease | Sidney Sands, M.D., Des Moines |
| Oct. 17-19 | The Purpose of the Physical Training Program | Richard Clausen, Professor, Coe College, Cedar Rapids |
| Oct. 24-26 | Meningitis | Van W. Hunt, M.D., Mason City |
| Oct. 31- | Pneumonia | |
| Nov. 2 | E. O. Loxterkamp, M.D., Rolfe | |

The JOURNAL of the Iowa State Medical Society

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Vol. XL OCTOBER, 1950 No. 10

AMA Advertising Program

During the week of October 8 the advertising program of the American Medical Association will appear in every paid circulation daily and weekly newspaper in the United States. Other advertisers have been invited to augment this advertising with material prepared for their use. At a time when America is again fighting overseas for the cause of freedom, it is appropriate that our own campaign for the freedom of the medical profession should be taken on such a large scale. This project has not been planned exclusively as a medical program but has been designed to give all Americans a public stand for the voluntary way of life.

Because of the extensiveness of this advertising considerable comment will undoubtedly be made to every physician in Iowa. It is hoped that enthusiastic support will be given to the program which should write a dramatic chapter in the doctors' campaign by demonstrating effectively that American medicine has the confidence and support of the majority of the people in every community in the nation.

It behooves every physician to be prepared to give intelligent information to those who undoubtedly will be inquiring or commenting upon the advertising in the newspaper published in the physician's home town. The success of any campaign depends upon each individual who can be contacted and informed personally regarding the extent of the project. The physician has an unusual advantage with his own patients and ac-

quaintances, and you are urged to cooperate thoroughly in explaining just how we feel about governmental interference in the practice of our profession.

What About Military Service?

The younger physician is greatly concerned over the possibility of being called into military service, and for his benefit the following facts are presented.

At a called meeting in Chicago September 10, General Schwichtenberg of the Department of Defense, Office of Medical Services, stated that a directive has already gone to the Army, Navy and Air Force that they are to adhere strictly to the law and not call the reserves. All ASTP and V-12's shall be called first, those with no prior duty receiving the first call, then those who have had some active service. Only after that will the reserves be called, although some medical officers with special experience may be needed sooner. The bill just passed makes no provision for calling non-ASTP's and non-V-12's who have not had service, nor those who were deferred in the last war. Procurement and Assignment will deal with them and it is expected that that agency will be appointed soon.

Physicians who are in the ASTP or V-12 group may choose their branch of service if they volunteer before they are called, and they also receive the \$100 a month extra pay if they volunteer. If they are drafted, they do not have choice of service or receive the extra pay.

Reserve officers in the Army, who have already been called, may have their cases reconsidered and possibly they will be returned to private life. This is uncertain at the moment.

The Air Force is getting enough volunteers so that it has not had to recall any reserves.

The Navy has called only officers in the organized reserve with a few exceptions.

Selective service is operating under the act of 1948. It is felt that small draft boards are better than large, hence the number of boards will be increased. It will be the responsibility of the boards to defer medical students, interns and residents in accord with the national policy. At the moment the Army is permitting interns and senior residents to complete their year's training before calling them to duty.

Dr. Donald G. Anderson, of the Council on Medical Education and Hospitals, stated that one full time or the equivalent part time instructors are needed for each four students in the first two years of medical school, and one full time or the equivalent for each three students in the last two

years. That gives some basis for determining how many physicians should be deferred in the medical schools.

These are the essential highlights of the situation as of today.

Medical-Press-Radio Conference

The Medical-Press-Radio Conference, held in Des Moines September 8, met with an excellent response from those who attended. Registrations did not reach the figure of 1949 when 175 were present, but more than 130 persons heard the program.

The morning session was devoted primarily to matters relating to the Korean war. Mr. Richard H. McCleery of Washington, Iowa, told what the atomic bomb did to Hiroshima, Dr. John W. Ferguson of Newton discussed civilian defense from a medical standpoint, and Brigadier General James P. Cooney of Washington, D. C., discussed atomic energy as it relates to medicine. General Cooney's talk was scientific in that it told specifically where atomic energy is released in bomb explosions, what the danger areas are, the time element of danger, how to protect one's self to the best advantage and how to aid those injured. It is hoped that the *Journal* may obtain more material from him for publication, since every doctor and civilian in Iowa should be familiar with the true facts. General Cooney stressed the fact that many lives could be saved if hysteria could be avoided.

The afternoon program was constructive in nature, the first talk being an explanation of how our Grievance Committee functions. The second talk dealt with the work of placing physicians in rural areas, while the third stressed the advances in medical science which have prolonged the life span of people today. Dr. William Bean of the State University of Iowa College of Medicine presented this paper and it attracted a great deal of favorable comment.

Mr. Thomas A. Hendricks, secretary of the Council on Medical Service of the AMA, discussed the expansion of voluntary insurance. Mr. Hendricks is always an entertaining speaker while purveying a great deal of factual information. The final section of the program consisted of a panel discussion of a code of cooperation between the medical profession, the press, radio and hospitals. Discussants were Mr. I. W. Myers who spoke of the physician's legal responsibilities to his patient, Mr. Jack Shelley speaking for the Iowa Radio News Editors' Association, Mr. Harry C. Mauck, Jr. for the Iowa Daily Press Association, Dr. Fred Sternagel for the medical profession and Mr. Richard B. Hull for television.

This phase of the meeting elicited more discussion, possibly, than any other due to the fact that it concerned all of those present in one way or another.

These yearly conferences are proving to be stepping stones to better understanding and relationships between the different groups, and we cannot help but feel they should be continued.

Heart Disease as a Public Health Problem

Diseases of the heart and circulation are usually of a chronic nature and are never epidemic in character. For this reason the prevention and treatment of heart disease has only recently been considered a public health problem. Statistics show that heart disease is the greatest killer of mankind, and that it cripples untold millions to the extent that they are more or less dependent on family and public health agencies for support. Thus the matter becomes of vital importance from the public health viewpoint.

Except for accidents, heart disease is the most common cause of death among school children. Draft records of World War II showed 10 per cent of all rejections were for diseases of the heart and circulation. In 1947 these accounted for 626,000 deaths in the United States, more than the combined total of the next five causes of death. At the present rate of increase of heart deaths and the present increase in age of the American population, it is estimated that a possible 1,200,000 people will die yearly of heart disease by 1960. It is already estimated that at least 4,000,000 Americans have some form of disorder of the human motor. Of the 26,302 death certificates signed in Iowa last year, 9,727 or 37 per cent were classified as heart disease deaths.

One reason for the apparent increase in heart trouble is due to the fact that now relatively few people die of cholera infantum, diphtheria, scarlet fever, smallpox and the pneumonias. Not long ago tuberculosis was the chief killer in the United States registration area. Pneumonia was in second place as a cause of death. Now both are far down the list. Thus with better control of acute diseases of childhood and adult life along with better living conditions, man's average span of life has been increased to between 65 and 70 years. At this age heart deaths are more numerous. One might also consider that death certificates today reflect more accurately the true causes of death, whereas the old terminology included such terms as "acute indigestion," "apoplexy," "senility," and "complications" without rightfully incriminating the heart.

What must we do that our Public Health Pro-

gram may continue to reduce the morbidity and mortality of heart disease? First of all we should know the causes of heart trouble. This necessitates research and research is expensive. Results of research cannot be guaranteed. In the business world and industry millions of dollars are spent without hesitation, for the businessman knows that such an investment will be well repaid. But until recently funds for research in the world of medicine have always been small. As late as 1945 public money contributed to the American Heart Association for cardio-vascular disease totaled seven cents annually for each American who died of heart disease. This is contrasted with \$13,000 for each infantile paralysis death, \$292 for each death from tuberculosis and \$22 for each cancer death. Fortunately, however, the total sum spent on heart research was much more than seven cents a death because of privately sponsored research.

Over 30 years ago Dr. Haven Emerson, then commissioner of health of New York City, made an estimate that perhaps 20,000 of the city's public school children had heart disease. This inspired physicians to plan a course of action. On May 2, 1916, nine doctors met in New York to take the first step. The Association for the Prevention and Relief of Heart Disease was organized. This later became the New York Heart Association. In 1922 at a meeting of the American Medical Association, the American Heart Association was organized. It has members in Canada, Mexico, Central and South America. Recently this association has been reorganized and it now includes in its membership many lay members. Research is being promoted in many centers of learning by the gifts from the American Heart Association. Not long ago Congress created the National Heart Institute as one of the Institutes of Health within the framework of the United States Public Health Service. Administrative headquarters will be in Bethesda, Maryland, where there will be ample facilities for the care and study of patients and research. The National Heart Council has been made up of a group of distinguished public-spirited citizens who will take an active part in the determination of policies and the allocations of funds by the institute. Here in Iowa we now have our Iowa Heart Association with offices at 2124 West Grand Avenue, Des Moines. The personnel of these offices stands ready to furnish material and aids to county health associations, local organizations and individuals in their effort to spread the existing knowledge of how to avoid heart disease and how to cooperate with physicians in its treatment.

Thus, in 35 years, what started as a medical study has become a medical, social and legislative

drive at international, federal and state levels to lengthen life.

A Public Health Program cannot await a complete and exact knowledge of all the factors involved in heart disease.

School examinations, examinations in industry, periodic health examinations and last but not least, the enlightenment of the American family and the American parent as to the dangers of heart disease and the recognition in time of the signs and symptoms of heart disease will do much to aid the effort.

The Centennial Volume

First copies of the centennial volume prepared by the Historical Committee of the Iowa State Medical Society have been received from the bindery, and it is hoped that by the first of October they will be in the mail for all members of the society. Possibly we are prejudiced toward the volume because we have aided the Committee slightly over the last two years in gathering and preparing some of the material, but we must admit that to us the volume seems excellent. It is very readable, the illustrations are plentiful and add interest and many subjects are covered.

It goes without saying that those doctors with an historical bent will enjoy it greatly, but we feel sure that even the others will like it. There is enough variety in the volume to attract many different types of temperament.

We feel the Historical Committee richly deserves a vote of thanks from the membership for compiling such an excellent record of the first hundred years of Iowa medicine.

Medical Grievance Committee

The Grievance Committee of the Iowa State Medical Society made its first quarterly report to the Board of Trustees in September. Fourteen individual cases have been handled since the first meeting of the Committee on May 21, 1950. Eight of these have been settled satisfactorily.

A plan of procedure has gradually been evolved for handling the complaints. When a grievance is received, it is presented to the Committee. The secretary then writes to the complainant, requesting his signature upon a signed authorization to investigate and to contact all parties involved.

Upon receipt of this signed authorization, the physician involved is contacted by the committee-man from that district requesting the physician's signed authorization to investigate. Then the committeeman from that district makes the investigation. He collects all pertinent data and presents

(Continued on page 509)

President's Page

Plans are progressing for the Sioux City meeting, which starts our second century of organized medicine in Iowa. A most attractive program is being arranged which will be of great interest to the doctors of the state. It was hoped we might be able to arrange for a television program but to date we have not been able to do so.

The new Memorial Auditorium is most admirably suited to house us. There is ample space on the ground floor for the technical exhibits, for two section meeting rooms and for a hobby show we hope to have. The main arena floor will house the scientific exhibits, the general sessions room, and the stage is large enough to hold the surgical section meeting. Small rooms for committee meetings are also available.

The entire building is air-conditioned. It is beautifully decorated and well lighted. Ramps provide easy access to the different levels and there is also an elevator for those who find the climb difficult.

Present plans call for a meeting of the House of Delegates on Monday morning, April 23 and Wednesday morning, April 25. There will be general session meetings on Monday afternoon, Tuesday and Wednesday mornings, with Tuesday and Wednesday afternoons broken up into section meetings. A panel discussion on corn picker accidents is one of the features of the Wednesday afternoon session.

The Woodbury County Medical Society is making extensive plans for our entertainment and the session promises to be well worthwhile from all angles. The Chamber of Commerce is cooperating to the fullest in providing the facilities we need and is doing all in its power to make the meeting one of our largest.

The Martin Hotel will be headquarters for the physicians, the Warrior for the Auxiliary and the Mayfair for the exhibitors. Doctors should write directly to the hotels for their reservations.

Mark the dates—April 23-25, 1951 and plan to attend.

T. F. Thornton, M. D.

President, Iowa State Medical Society

NEWS NOTES

from the

Committee on Medical Service and Public Relations

Report of Medical-Radio-Press Conference

The second annual Medical-Radio-Press Conference sponsored by the Committee on Medical Service and Public Relations was held September 8 at the Hotel Fort Des Moines in Des Moines. More than 130 medical and newsmen attended. The meeting was called to order at 10:00 a.m. by Dr. Thomas F. Thornton of Waterloo, President of the Iowa State Medical Society. Dr. Thornton greeted the medical and newsmen and then briefly discussed the agenda. Dr. Donald C. Konzett of Dubuque, President-elect of the Society, served as moderator.

Atomic Bomb

The morning program was confined to discussions on civilian defense and atomic energy. Mr. Richard H. McCleery of Washington, Iowa, discussed "What the Atomic Bomb Did To Hiroshima." Mr. McCleery recently returned from Hiroshima where he made a study of the attitude of Japanese people toward the United States following the atom bomb. He observed that in many instances the people were happy they lost the war because their living conditions today are much improved under United States control. Mr. McCleery asked one Japanese if he thought his people would ever forgive the United States for using the atomic bomb. The answer was, "We could forgive you Hiroshima and Nagasaki if you would forgive us Pearl Harbor."

A report of the Committee on Emergency Medical Service was made by Dr. John W. Ferguson of Newton, Chairman of the Committee. The Committee has been in existence only a short time so Dr. Ferguson explained its organization and purpose. The Committee will be expected to correlate its work with the plans developed at the national level. To date, the national plans have not been completed.

The principal conference speaker was Brig. Gen. James P. Cooney, M.C., Washington, D. C., Chief, Radiology Branch, Division of Military Application, Atomic Energy Commission. He spoke on "Atomic Energy as It Relates to Medicine." Brig. Gen. Cooney was born on a farm near Parnell

and was a medical student at the University of Iowa. Brig. Gen. Cooney, who was present at the Bikini and Eniwetok atom bomb tests, said that the way to save lives if an atomic bomb bursts over an Iowa town or city is to be prepared and not to be frightened. "Don't just yell Joe Stalin is here and head for the highways," he said. "You will be needed, if you are still uninjured, to help those who are not so fortunate." He stated that after 90 seconds during which the worst radiation dies out, there will be little or nothing to fear. "You can begin removing victims from an area 90 seconds after an atom bomb has burst," he said. The two elements needed to save lives in an atom bomb explosion are preparation and courage, Cooney believes. He thinks the lack of understanding of radioactivity causes unnecessary panic. "Sickness caused by radiation does kill many but the danger after the atom blast does not linger," Brig. Gen. Cooney said. The principal cause of death is the blast and fire, not the lingering radioactivity. The danger is immediate, not lasting. "We estimate that radio sickness increased the death total at Hiroshima only about 15 per cent," he said.

"I was interested in reading the other day that it is now safe to swim in the Bikini lagoon. I was very glad to read that because I swam there four years ago and so did a lot of others, and I don't believe I have developed any ill affects. If I have, I don't recognize them," he said.

In his studies at Hiroshima and Nagasaki he observed that there were few who suffered severe fractures, such as skull, leg and arm fractures. We know there were hundreds that suffered these injuries but none were indicated on hospital charts. He believes a large number of these persons died needlessly. "The people of Hiroshima and Nagasaki did little to assist their fellow countrymen following the blast. Those who were able to walk or crawl moved out of the area as rapidly as possible and left those to die who were unable to locomote," he said.

Brig. Gen. Cooney said, "That if an atom bomb should be dropped on this city that we should not head for the country, but take shelter immediately

(Continued on page 509)

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- THE ANTIHISTAMINES**—by *Samuel M. Feinberg, M.D.*, Associate Professor of Medicine, Chief of Division of Allergy and Director of Allergy Research Laboratory; *Saul Malkiel, Ph.D., M.D.*, Assistant Professor of Medicine, Director of Research, Allergy Research Laboratory; *Alan R. Feinberg, M.D.*, Clinical Assistant in Medicine, Attending Physician in Allergy Clinic, Northwestern University Medical School. The Year Book Publishers, Inc., Chicago, 1950. Price \$4.00.
- BONE AND JOINT DISEASES**—by *J. Vernon Luck, M.S., M.D., F.A.C.S., F.I.C.S.*, Assistant Clinical Professor of Orthopedic Surgery, University of Southern California; Senior Attending Physician, Department of Orthopedic Surgery, and Consultant in Orthopedic Pathology, Los Angeles County Hospital; Member, Subcommittee in Orthopedic Surgery, National Research Council; Member, Board of Associate Editors, *Journal of Bone and Joint Surgery*. Charles C. Thomas, Springfield, Ill., 1950. Price \$16.50.
- CEREBRAL PALSY**—by *John F. Pohl, M.D.*, Orthopedic Surgeon, Michael Dowling School for Crippled Children, Minneapolis, Minn. Bruce Publishing Co., St. Paul, Minn., 1950. Price \$5.00.
- CYTOLOGIC DIAGNOSIS OF LUNG CANCER**—by *Seymour M. Farber, M.D., Milton Rosenthal, M.D., Edwin F. Alston, M.D., Mortimer A. Benioff, M.D., and Allen K. McGrath, Jr., M.D.* from the University of California Medical Service and the Department of Pathology, San Francisco Hospital and the San Francisco Department of Public Health. Charles C. Thomas, Springfield, Ill., 1950. Price \$6.00.
- DIAGNOSIS AND TREATMENT OF TUMORS OF THE HEAD AND NECK**—by *Grant E. Ward, M.D., D.Sc., F.A.C.S., James W. Hendrick, M.D., M.S.* From the Department of Surgery of the School of Medicine, University of Maryland and the Johns Hopkins Hospital. The Williams & Wilkins Co., Baltimore, 1950. Price \$15.00.
- DOCTOR COME QUICKLY**—by *Frank J. Clancy, M.D.* Superior Publishing Co., Seattle, Wash., 1950. Price \$2.95.
- EYES AND INDUSTRY**—by *Hedwig S. Kuhn, M.D.*, Industrial Ophthalmologist, Hammond, Ind. The C. V. Mosby Co., St. Louis, 1950. Price \$8.50.
- FREUD: DICTIONARY OF PSYCHOANALYSIS**—edited by *Nandor Fodor and Frank Gaynor*. Philosophical Library, New York, 1950. Price \$3.75.
- HUMAN FERTILITY AND PROBLEMS OF THE MALE**—by *Edmond J. Farris, Ph.D.*, Executive Director, Associate Member, The Wistar Institute of Anatomy and Biology, Philadelphia. The Author's Press, Inc., White Plains, New York, 1950. Price \$5.00.
- LIGHT THERAPY**—by *Richard Kovacs, M.D.*, Professor of Physical Medicine, New York Polyclinic Medical School and Hospital. Charles C. Thomas, Springfield, Ill., 1950. Price \$2.25.
- THE MANAGEMENT OF OBSTETRIC DIFFICULTIES**—by *Paul Titus, M.D.*, Obstetrician and Gynecologist to the St. Margaret Memorial Hospital, Pittsburgh; Consulting Obstetrician and Gynecologist to the Shadyside Hospital, Pittsburgh; Secretary of the American Board of Obstetrics and Gynecology; Member Reserve Consultants Advisory Board, Bureau of Medicine and Surgery, United States Navy. The C. V. Mosby Co., St. Louis, 1950. Price \$14.00.
- THE NATIONAL FORMULARY**—American Pharmaceutical Association. Mack Publishing Co., Easton, Pa., 1950.
- NURSING IN PREVENTION AND CONTROL OF TUBERCULOSIS**—by *H. W. Hetherington, M.D., M.R.C.P.*, Chief of Clinic of the Henry Phipps Institute of the University of Pennsylvania; Assistant Professor of Medicine of the University of Pennsylvania School of Medicine, Former Visiting Physician to the White Haven Sanatorium; *Fannie W. Eshleman, R.N., B.S.*, Supervisor of Public Health Nursing of the Henry Phipps Institute of the University of Pennsylvania; lecturer on Tuberculosis Nursing, Department of Nursing Education of the University of Pennsylvania. G. P. Putnam's Sons, New York, 1950. Price, \$4.50.
- THE PATHOGENESIS AND PATHOLOGY OF VIRAL DISEASES**—edited by *John G. Kidd*. Symposium held at the New York Academy of Medicine, Dec., 1948. Columbia University Press, New York, 1950. Price \$5.00.
- REGIONAL DERMATOLOGIC DIAGNOSIS**—by *Ervin Epstein, M.D.*, Consultant in Dermatology and Syphilology to the Oakland Area Veteran's Hospital and Mt. Zion Hospital; Consultant to the Tumor Board at the Highland-Alameda County Hospital; Co-editor of *Dermatologica*; Abstract staff of *excerpta Medica*; Diplomat of the American Board of Dermatology and Syphilology and of the Society for Investigative Dermatology; Former president of the San Francisco Dermatological Society; Secretary-Treasurer of the Pacific Dermatologic Association; Secretary of the Section on Dermatology and Syphilology of the California Medical Association. Lea & Febiger, Philadelphia, 1950.
- SIR WILLIAM OSLER APHORISMS FROM HIS BEDSIDE TEACHINGS AND WRITINGS**—edited by *William Bennett Bean, M.D.* Henry Schuman, Inc., New York, 1950. Price \$2.50.
- THE SURGICAL TREATMENT OF FACIAL INJURIES**—by *Varaztad Hovhannes Kazanjian, M.D., D.M.D.*, Professor Emeritus of Plastic Surgery, Harvard University; Formerly Chief of Plastic Surgery Clinic, Massachusetts General Hospital and Massachusetts Eye and Ear Infirmary; Consulting Surgeon, Massachusetts General Hospital, Massachusetts Eye and Ear Infirmary, New England Deaconess Hospital, Boston City Hospital, Beth Israel Hospital, Boston, Mass.; Mt. Auburn Hospital, Cambridge, Mass.; Sumner Hospital, Arlington, Mass.; Leonard Nose Hospital, Natick, Mass.; Burbank Hospital, Fitchburg, Mass.; Milford Hospital, Milford, Mass.; New York Hospital, Newport, R. I.; and *John Marquis Converse, M.D.*, Assistant Professor of Clinical Surgery, New York University College of Medicine; Chief of Division of Plastic Surgery, Department of Surgery, New York University; Bellevue Medical Center; Surgeon in Charge of Plastic Surgery Clinic, Manhattan Eye, Ear and Throat Hospital; Attending Plastic Surgeon, Hospital for Special Surgery and St. Luke's Hospital, New York, N. Y. The Williams & Wilkins Co., Baltimore, 1949. Price \$10.00.
- TRACK AND FIELD ATHLETICS**—by *George T. Bresnahan*, Assistant Professor of Physical Education, formerly Track Coach, State University of Iowa and W. W. Tuttle, Ph.D., Professor of Physiology, State University of Iowa. The C. V. Mosby Co., St. Louis, 1950. Price \$5.00.
- WILLIAMS OBSTETRICS**—by *Nicholson J. Eastman*, Professor of obstetrics, Johns Hopkins University and Obstetrician-in-chief to the Johns Hopkins Hospital. Appleton-Century-Crofts, Inc., New York, 1950.
- YOUR HAIR**—by *Herman Goodman, M.D.* Emerson Books, Inc., New York, 1950. Price \$2.95.

BOOK REVIEWS

Amusing Quotations for Doctors and Patients, by *Noah D. Fabricant, M.D.*, (Grune and Stratton, Inc., New York, \$3.00) A handy joke is valued by any physician. This book is prepared especially for the doctor and is conveniently subdivided so that appropriate quotations may be found on almost any subject encountered in practice.—E. M. George, M.D.

Textbook of Endocrinology, edited by *Robert H. Williams, M.D.* (W. B. Saunders, Co., Philadelphia). This is a textbook that is thorough and at the same

time it is easy to read, a combination rarely seen in medical literature. All essential aspects of endocrinology are covered adequately from the clinical standpoint, with timely emphasis on the fields in which most rapid progress is being made. The separate chapters assigned to individual glands are written by authors who are actively at work on the study of their functions. Little space is wasted on anatomy, and proper stress is laid upon physiology as it applies to clinical medicine. Altogether, this is an up-to-date and refreshing treatise of a difficult subject.—A. G. Lueck, M.D.

Cerebral Palsy by *John F. Pohl*, M.D. (Bruce Publishing Co., St. Paul, Minn., \$5.00). Dr. Pohl, with his wealth of experience in the treatment of cerebral palsy, has fulfilled the need for a textbook dealing with this problem. The different types of cerebral palsy are described with excellent illustrations presented. The necessity for physical and occupational therapy and speech training is thoroughly described. While the book may appeal particularly to those treating this condition, it is recommended to all physicians for a better understanding of the subject.—E. M. George, M.D.

The Practice of Medicine, by *Jonathan Campbell Meakins*, M.D. (The C. V. Mosby Co., St. Louis, \$13.50). The author has included the numerous advances which have been made in the practice of medicine in this fifth edition of his splendid treatise. Numerous illustrations, many of them in color, add much to the understanding of the text. It is hardly necessary to endorse this textbook, which has taken its place as one of the best in its field. Dr. Meakins is to be congratulated for presenting his subject in so interesting a manner.—E. M. George, M.D.

Principles and Practices of Plastic Surgery by *Arthur Joseph Barsky*, M.D. (Williams and Wilkins Co., Baltimore, \$10.00). Among the several books on plastic surgery which have been published recently, Dr. Barsky's book ranks very highly. One is impressed by the fact that those procedures which he describes are the result of successful application by himself and others. Illustrations, both photographic and diagrammatic are excellent. The binding seems first rate, and the printed material is done in clear and readable type, on good quality paper. Here is a book in which one is not led astray by doubtful and risky techniques. The fields covered include not only maxillo-facial surgery, but general plastic surgery of the trunk, extremities and the hand. I consider the book a very reliable reference work for which Dr. Barsky is to be highly complimented.—J. M. Bruner, M.D.

Parkinson's Disease, by *Walter Buchler*, (Walter Buchler, London, \$1.00). This pamphlet relates the personal experience of a patient who suffers from Parkinson's disease. It should be welcomed by physicians who desire to prescribe advice and aid for patients suffering from Parkinsonism.—E. M. George, M.D.

A Textbook of X-Ray Diagnosis edited by *S. Cochran Shanks*, M.D., W. B. Saunders Co., Philadelphia, \$15.00). The second edition of this textbook is one of four volumes prepared by British authors on x-ray diagnosis. Not only are the pathological changes which occur in bones and joints thoroughly portrayed, but in addition, one section deals with the x-ray appearance of normal bones and joints. The illustrations are excellent. Representing the contributions of the outstanding roentgenologists of Great Britain, this book contributes much to the understanding of its subject.—E. M. George, M.D.

Bone and Joint Diseases by *J. Vernon Luck*, M.D. (Charles C. Thomas, Springfield, Ill., \$16.50.) Dr. J. Vernon Luck, who had a portion of his training at the State University of Iowa College of Medicine, is to be congratulated for the splendid manner in which he has correlated pathology with the x-ray and clinical features of bone and joint diseases. This approach to the subject is more thoroughly discussed than in any other text and affords the reader a better understanding of bone and joint changes and why they occur. All physicians will find this book a valuable addition to their library.—E. M. George, M.D.

Management of Obstetric Difficulties by *Paul Titus*, M.D. (The C. V. Mosby Co., St. Louis, \$14.00) is the fourth edition of this excellent text. This edition brings us the latest developments in sterility studies and treatment, the current management of threatened and habitual abortions and the changes in management of placenta previa. Present views on toxemia of pregnancy and the prevention and management of shock and hemorrhage are also added in this revised text.

Certain changes in technic are described, including induction of labor, preparation for delivery, perineorrhaphy and management of retained placenta.

The chapter on pelvic mensuration and evaluation by x-ray has been excellently revised.

The current edition of this text, in its entirety, is easy to read, the subject is concise and lengthy discussions are avoided.—A. E. Schill, M.D.

Track and Field Athletics by *George T. Bresnahan* and *W. W. Tuttle* (The C. V. Mosby Co., St. Louis, \$5.00). This is the third edition of a volume prepared by two staff members of the State University of Iowa. Not only is detailed information outlined for the various track and field events, but this has been augmented by an explanation of the basic physiological background in the preparation of the athlete for the state of perfection so necessary for maximum efficiency. It is hardly necessary to recommend this book which occupies a unique position in its field.—E. M. George, M.D.

The Merck Manual of Diagnosis and Therapy, (published by Merck and Co., Inc., Rahway, N. J., \$5.00). The eighth edition of this well-known manual has increased in size, circulation and value. Included in the 1,592 pages are completely new chapters dealing with the newer aspects of nutritional deficiencies, radiation reactions, dental emergencies, the use of antibiotics and various other advances which have been made. More than 1,175 prescriptions are listed for the convenience of its readers. Those physicians who have purchased previous editions of this book will be happy to note the new material which has been incorporated in this volume. The manual is recommended to all physicians as a compendium which is extremely valuable for ready reference.—E. M. George, M.D.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. CLAIRE H. MITCHELL, Indianola

President-Elect—MRS. HOWARD W. SMITH, Woodward

Secretary—MRS. RALPH J. SELMAN, Ottumwa

Treasurer—MRS. DWIGHT C. WIRTZ, 449-56th St., Des Moines

ACTIVITIES OF COUNTY AUXILIARIES

The Dallas-Guthrie Auxiliary has voted 50 cents per member toward the Nurses' Loan Fund. It has recently effected a revision of its Constitution and Bylaws in accordance with state and national recommendations.

The Delaware County Auxiliary has been presenting Flynn's *The Road Ahead* by reviews of two chapters at a time at regular meetings.

The Marshall County Auxiliary is sponsoring a movement to obtain funds to purchase books for the nurses' reference library at the hospital. Through the influence of the Auxiliary, the Superintendent of Schools distributed 250 pamphlets dealing with Compulsory Health Insurance to employees of the school system.

The Pottawattamie County Auxiliary entertained the Council Bluffs Druggists' Wives at their May meeting.

The Polk County Auxiliary was entertained by a travelogue of Europe presented by Mrs. Fred Moore and her son, Dr. Richard Moore. A nurse recruitment program had added color and interest by the participation of nurses from local hospitals.

The Sioux Med-Dames recently enjoyed a unique program of singing and dancing presented by the talented children of their own members.

NEW PAMPHLET PROMOTES TRUMAN HEALTH PLAN

Campaigners for national health insurance now have new ammunition. The latest propaganda effort from the Democratic National Committee is a detailed handbook for party workers, designed to supplement a smaller, mass-appeal pamphlet already circulating. The first pamphlet, *Better Medical Care That You Can Afford*, undertakes with a few words and numerous drawings to sell the general public on the advantages of compulsory national health insurance. As predicted, it is enjoying wide circulation, mostly as a result of bulk-quantity purchase by labor unions and other organizations and direct mailing by the National Committee.

The latest booklet is pitched to a different population level. It dips a little deeper into the subject and supplies adequate material for speeches, radio talks,

and group discussions. This second pamphlet is entitled *Administration Health Program, a Training Kit for Leaders*. Although the material consists mostly of the familiar mixtures of information and propaganda, it is well-arranged to simplify the job of the party worker. The 80 pages are broken up by sections, headings and bold face type, and an index, resume and cross-reference system are provided.

The section on lobbying is a 17 page attack on the American Medical Association, usually referred to as Organized Medicine. Included are 36 questions, such as "Is It True That America Has 'Low Grade' Health Care?" Answers to each are printed in parallel columns under the headings "Lobbyists Say" and "The Truth Is." A ready guide for speakers is provided in the last chapter. This consists of liberal quotations from various messages and speeches of the President, a statement by FSA Administrator Oscar Ewing and advice on *how best to appeal to special population groups*, such as housewives, farmers, industrial workers, negroes and businessmen. One section tells party workers what arguments to use when they attempt to convince doctors that national health insurance would be to their advantage.

"Capitol Clinic," August 8, 1950

TEN REASONS WHY EVERY COUNTY SHOULD HAVE A MEDICAL AUXILIARY

1. To establish good fellowship among physicians' families.
2. To fight the socialization of the profession.
3. To promote the voluntary medical insurance plans.
4. To educate the public via radio, *Hygeia**, displays, talks, brochures.
5. To assist with health programs in the community.
6. To further the nurse recruitment program.
7. To study and inform yourselves.
8. To advance or oppose legislation.
9. To work with and as a unified group.
10. To be alert at all times to further the aims of the profession.

*Now called Today's Health
From—"The Hoosier Doctor's Wife"

TWO DON'TS AND TWO DO'S

On the medical sector of the total war against predatory bureaucracy, experience has proven that the medical profession must observe two don'ts and two do's in order to battle more effectively.

(Continued on page 510)

SOCIETY PROCEEDINGS

MEETINGS

Black Hawk

The Black Hawk County Medical Society met September 19 at the Hotel Russell Lamson in Waterloo. A complimentary dinner was provided by the Iowa Division of the American Cancer Society. Speakers included Dr. Richard J. Steves of Des Moines, who spoke on "Cancer of the Skin"; Dr. Charles McCartney of Chicago, who spoke on "Cancer of the Uterus"; Dr. Joseph Gale of Madison, Wisc., who spoke on "Cancer of the Lung" and Dr. E. R. Woodward of Chicago, who spoke on "Cancer of the Stomach."

Cass

Dr. Joseph Gross of Omaha discussed "Shoulder Fractures and Complication" at the monthly dinner meeting of the Cass County Medical Society on September 12.

Dubuque

The Dubuque County Medical Society met September 12 to celebrate its 97th anniversary with a dinner and meeting at Bunker Hill, Dubuque. Dr. Arthur Hunt of the Mayo Clinic presented a paper on "Difficult Labor in Relation to Forceps Delivery" and Dr. Howard K. Odell, of the Clinic, lectured on "Acute Renal Failure."

Linn

The Linn County Medical Society met September 14 for a dinner meeting at the Roosevelt Hotel in Cedar Rapids. Dr. Rollin A. Daniel, Jr., of Nashville, Tenn., Associate Professor of surgery at the Vanderbilt School of Medicine, spoke on "Surgery of the Chest." Dr. T. F. Thornton, President of the Society outlined policies of the State Medical Society.

Polk

Dr. E. T. Bell of Minneapolis, Minn., will speak on "Extra-Renal Uremia" at the October 18 meeting of the Polk County Medical Society at the Wakonda Country Club in Des Moines.

Poweshiek

The regular meeting of Poweshiek Medical Society was held at Grinnell September 12. Dr. C. V. Larson, orthopedic surgeon at SUI addressed the group on "Fractures of the Lower Extremity"; Dr. Don Conzett of Dubuque spoke on "Fractures of the Upper Extremity" and Dr. Everett M. George of Des Moines on "Fractures of the Spine."

Woodbury

The Woodbury County Medical Society met September 21 at the Martin Hotel in Sioux City. Dr.

Fred Kotlke, of the University of Minnesota Medical School, discussed "Problems and Treatment of Polio-myelitis."

PERSONALS

Dr. J. H. Ackerman has begun the practice of medicine in Clarksville. He is a graduate of Marquette University, Milwaukee, Wisc.

Dr. N. H. Bare, assistant physician and psychiatrist at the Iowa State Hospital in Mount Pleasant since 1948, has resigned to be resident medical director in Windsor Hospital in Chagrin Falls, Ohio.

Dr. David G. Berger began practicing medicine in Dubuque September 24. He was graduated from the SUI College of Medicine in 1948 and interned in Denver, Colo.

Dr. Kenneth L. Buresh, formerly of Baxter, began the practice of medicine in Westbrook, Minn., September 1.

Dr. Robert D. Dalager has become associated with Drs. Philip McIntosh and William D. Maixner in the South Ottumwa Medical Center. Dr. Dalager was graduated from the Nebraska Medical College at Omaha in 1947 and completed his internship at the University Hospital in Omaha. For the past year he has been engaged in general practice in Nebraska City, Nebr.

Dr. William Doornink, Orange City physician for more than 20 years, retired from practice September 1 because of ill health.

Dr. Frank N. Dunkerschein has become associated with Dr. A. J. R. Stueland in Mason City. A graduate of the University of Wisconsin Medical School in Madison, Dr. Dunkerschein interned at the Ancker Hospital in St. Paul, Minn. He received additional training at the Lying-In Hospital at Chicago.

Dr. Everett M. George addressed the Rotary Club at Adel September 6 on the subject "The Cerebral Palsy Problem in Iowa."

Dr. Daniel J. Glomset of Des Moines addressed the International Congress of Physiologists in Copenhagen, Denmark on "The Conduction System of the Heart" last month.

Drs. Ray F. Goding and Joseph R. Simmons, who recently opened offices in Guthrie Center have made arrangements to supply Casey with their services.

Dr. Thurman K. Leonard recently became associated with **Dr. C. A. Nicoll** of Panora. Formerly of Garden Grove, Dr. Leonard graduated from the State University of Iowa College of Medicine in 1946.

Dr. C. L. LeMar of Dow City retired from the practice of medicine October 1. He plans to return to his former home in Osceola, Nebr.

Dr. L. L. Long, formerly of Waterloo, has begun the practice of medicine in Atlantic. A graduate of the University of Nebraska Medical School in Omaha, he interned at the Clarkson Memorial Hospital in Omaha.

Dr. Raymond P. McIllece, formerly of Nebraska City, Nebr., has joined **Dr. Leroy Dierker** in the practice of medicine in Fort Madison. Dr. McIllece was a 1940 graduate of the University of Nebraska College of Medicine, and his internship was completed at the U. S. Marine Hospital at Norfolk, Va.

Dr. Paul Neagle, formerly of Calmar, has become associated with **Dr. Luke Faber** in Dubuque.

Dr. Donald J. Ottlie has become associated with **Dr. Walker B. Henderson** in Oelwein. Dr. Ottlie was graduated from the SUI College of Medicine in 1946 and interned at the Mt. Carmel Mercy Hospital in Detroit, Mich.

Dr. John Parsons of Des Moines was named president-elect of the Iowa Heart Association at the recent annual meeting.

Dr. R. F. Rebal has become associated with **Drs. Hennessy and LaTonna** in Council Bluffs. Dr. Rebal was formerly in practice at Neola.

Drs. Frank and Mary Roberts, formerly of Spirit Lake, moved to Pine Ridge, S. D., in September. Dr. Frank Roberts will be a physician in the government Indian Hospital there.

Dr. Fred B. Sigworth of Anamosa, was honored for his 50 years of medical practice in Jones County by the County Medical Society August 10.

Dr. Howard H. Smead of Des Moines has been named chairman of the Committee on Health and Hygiene of the Iowa Safety Council.

Dr. Channing Smith of Granger was honored by having Drake University's opening football game dedicated to him September 15. Dr. Smith was a former Bulldog grid star.

Dr. J. E. Smith of Clarence was the guest of honor at a dinner given by the Cedar County Medical Society at the Tipton Country Club August 29. September 1 marked the end of his 50th year in medicine, and the community celebrated Dr. Smith's Day.

Dr. Paul F. Tempel of Steamboat Rock has been called into service by the Army Reserve.

Dr. Roy Turner has begun the practice of medicine in Armsrong. A graduate of the College of Medical Evangelists, Los Angeles, Calif., he recently completed his internship at Corwin Hospital, Pueblo, Colo.

Dr. Otis R. Wolfe of Marshalltown recently spoke on "Visual Rehabilitation Following Cataract Surgery" at the seventh biennial assembly of the International College of Surgeons in Buenos Aires, Argentina.

Dr. William C. Wildberger has recently become associated with **Dr. F. A. Wilke** in Perry. Together they will form the staff of the Perry Clinic. Dr. Wildberger received his medical degree from the Boston University School of Medicine in 1940 and interned at the Newton Hospital, Newton, Mass. Following his service, he was associated with the Rohlf Memorial Clinic in Waverly.

DEATH NOTICES

Dr. William R. Bates, 87, former Fort Dodge specialist, died in Alpine, California, September 2 after a long illness. Until his retirement last spring, Dr. Bates was Fort Dodge's oldest active physician. He received his medical degree from the University of Michigan at Ann Arbor in 1891. He began practicing at Rock Rapids in 1892 and in 1899 established his practice in Fort Dodge. He was elected to the Fifty Year Club in 1947. Dr. Bates was a former member of the Webster County and Iowa State Medical Societies.

Dr. Cora Williams Choate, 78, who practiced medicine in Marshalltown for more than 40 years, died August 24 at her home. After receiving her degree of medicine from the Northwestern University School of Medicine in 1896, she interned at the Mary Thompson Hospital for Women and Children in Chicago. Dr. Choate served as secretary of the Iowa State Medical Women's Association in 1934. She was a former member of the Marshall County and Iowa State Medical Societies.

Dr. O. H. Geesseka, 96, died September 2 at Mount Pleasant. He had practiced medicine in Henry county and served as a member of the county sanitary board for 50 years. A native of West Point, he was a former member of the Henry County and Iowa State Medical Societies.

Dr. Johnathan Johnson, 73, formerly of Alden, died September 1 after being in failing health for some time. Dr. Johnson was graduated from the College of Physicians and Surgeons at Keokuk and began practicing at Milton in 1903. He was a life member of the Hardin County and Iowa State Medical Societies.

Dr. John E. O'Keefe, 77, died September 16 in Waterloo of a lingering illness, caused by Parkinson's disease. Born near Jesup, Dr. O'Keefe was graduated from the State University of Iowa College of Medicine in 1896. He did postgraduate work at the New York post-graduate medical school, specializing in surgery. Dr. O'Keefe was a former member of the Black Hawk County and Iowa State Medical Societies.

TRENDS IN INTERNAL MEDICINE

(Continued from page 496)

48. Hench, P. S.; Kendall, E. C.; Slocumb, C. H.; and Polley, H. F.: Effect of a hormone of the adrenal cortex and of pituitary adrenocorticotrophic hormone on rheumatoid arthritis: preliminary report. *Proc. Staff Meet. Mayo Clin.*, xxiv:181-197 (April 13) 1949.

49. Gay, L. M.; and Long, J. W.: Clinical evaluation of isopropyl epinephrine in management of bronchial asthma. *J.A.M.A.*, cxxxix:452-457 (February 12) 1949.

50. Schiller, I. W.; and Lowell, F. C.: Trimeton, new antihistaminic drug. *New Eng. J.Med.*, cxxl:215-216 (February 10) 1949.

51. Halpern, B. N.: Recent advance in the domain of antihistamine substances: the phenothiazine derivatives. *Bull.N.Y. Ac.Med.*, xxv:323-330 (May) 1949.

52. Loafburrow, D. G.; Galbraith, A. L.; and Palmer, R. S.: Effect of the rice diet on the level of blood pressure in essential hypertension. *New Eng. J.Med.*, cxxl:910-914 (June 9) 1949.

53. Schroeder, H. A.; Fitcher, P. H.; and Goldman, M. L.: Effects of the "rice diet" upon blood pressure of hypertensive individuals. *Ann.Int.Med.*, xxx:713-732 (April) 1949.

54. Kempnes, W.: Treatment of heart and kidney diseases and of hypertensive and arteriosclerotic vascular disease with the rice diet.

55. Page, I. H.; and Taylor, R. D.: Pyrogens in the treatment of malignant hypertension. *Modern Concepts of Cardiovascular Disease*, xviii:51-52, 1949.

56. Van Dyke, H. B.: New analgesic drugs. *Bull. N.Y. Acad. Med.*, xxv:152-175 (March) 1949.

57. West, R.; and Reisner, E. J.: Treatment of pernicious anemia with crystalline vitamin B₁₂. *Am.J.Med.*, vi:643-650 (May) 1949.

58. Fishman, A. P.; Kroop, I. G.; Leiter, H. E.; and Hyman, A.: Experience with the Kolff artificial kidney. *Am.J.Med.*, vii:15-34 (July) 1949.

59. Conan, N. J., Jr.: Treatment of hepatic amebiasis with chloroquine. *Am.J.Med.*, vi:309-320 (March) 1949.

60. Van Dyke, H. B.: Synthetic analgesic drugs. *Am.J.Med.*, vi:681-683 (June) 1949.

NEWS NOTES

(Continued from page 452)

and remain in the area to help fight fires and care for the critically injured."

Following Brig. Gen. Cooney's speech a luncheon was served for the Conference representatives by the Iowa State Medical Society. After lunch Dr. H. B. Weinberg of Davenport gave a report on the activities of the Grievance Committee. Dr. Allan B. Phillips, Secretary of the Iowa State Medical Society, discussed the placement of physicians in rural areas and Dr. William B. Bean of Iowa City discussed advances in medical science and how they affect our people.

Mr. Thomas A. Hendricks of Chicago, Secretary of the Council on Medical Service, American Medical Association, gave a report on the expansion of voluntary health insurance.

Code of Cooperation

A panel discussion on a Code of Cooperation between medical and newsmen concluded the formal program. The code was discussed by a representative of each of the news associations and by a physician representing the Iowa State Medical

Society. This Code of Cooperation was drafted by representatives of the Iowa Radio Editors Association, Iowa Press Association, Iowa Daily Press Association, Iowa Hospital Association and Iowa State Medical Society. Representatives from each of these groups have met during the summer to complete the code. The code was presented and approved by the Executive Council of the Iowa State Medical Society September 7. Each group involved in the code is expected to familiarize its members with the code's provisions. A copy of the code will be sent to all county medical society secretaries and one will appear in the November JOURNAL.

EDITORIAL

(Continued from page 450)

it at the next committee meeting, or if the physician involved refuses to permit the committeeman from his own district to make an investigation, two other committeemen are appointed and they proceed. They in turn present their data at the next Committee meeting.

The Committee then reviews the case. If it feels further investigation is indicated, it so advises. If it feels a decision or conclusion, or even a settlement may be arrived at, such is done. The Committee has no legal authority. It can only suggest or recommend.

The parties are then notified as to the Committee's solution. They are asked to notify the Committee as to their own final reactions.

Thus far the reactions have been satisfactory to all parties. Cooperation by the physicians has been splendid. This aids the Committee in its work.

The Committee feels, however, that the response of the people of Iowa and the profession itself has been poor. Fourteen cases in four months certainly do not represent a cross-section of the people of Iowa who have complaints regarding the profession.

The Committee feels that this is due to both poor publicity and lack of publicity regarding the existence and activities of such a Committee. It feels that there is a need for much more publicity in the *Journal* and also in the lay press. The latter is an excellent way to let the people of Iowa know about and emphasize the functions of such a Committee. Such a Committee can accomplish a great deal of good public relations. It must, however, have proper and prudent publicity.

In view of the difficulties of surmounting the organization and initial action of this new Committee, it is felt that a proper start has been made. The cooperation of every member of the State Society will do much to make their work less of a burden to each member.

WOMAN'S AUXILIARY NEWS

(Continued from page 455)

Don't attempt to be theoretical, philosophical or hypothetical in your presentation of our patients' cause. You will be defeated because, on paper, compulsory sickness insurance is simply perfect and perfectly simple.

Don't ask consideration for the art of medicine, for the science of medicine, for the traditions of medicine, for the status of doctors nor of the doctor's pocketbook. If you do you will be accused of having "a vested interest in the status quo," and in this day, when communistic propaganda dominates the thinking of so many people in all parts of the world, having any vested interest and favoring any status quo are about the worst sins you can commit!

Do rely on historical fact, human experience and the words of the various editions of the Wagner-Murray-Dingle bills themselves. Facts outfight fiction.

Do remember that you are dedicated to the best interests of the patient. Base every argument upon whatever is in the best interests of the patient. Your only excuse for being in this battle is that you are fighting for those best interests of the patient.

Lawrence T. Brown, M.D., Denver
—Reprinted from "Rocky Mountain Medical Journal"

Your cooperation in strictly adhering to the following rules would be greatly appreciated by the editorial department of the Journal, and would enable us to render you better service on "Woman's Auxiliary News."

1. Material intended for publication should be received by your chairman by the twelfth of each month, as copy must be in the Journal office by the fifteenth in order to meet publication deadlines.

2. All material should be typewritten and double-spaced on standard 8½x11 paper; considerable editing is usually necessary, and it is very difficult for the printers if this is done on single-spaced copy.

EIGHT POINT PUBLIC HEALTH DEPARTMENT PROGRAM CONNECTICUT FEDERATION OF WOMEN'S CLUBS*

1. Through county chairmen and club presidents, to appoint public health chairman in each club, who are willing to develop a committee or department to follow a program of health education and action in community problems. In some cases an existing department may wish to adopt a part of this program instead of starting a new group.

2. Stress at least one health program each season, possibly with another organization, and open to the public, from a list of speakers provided by the

*Developed by Mrs. Ralph Gilman, president of the Woman's Auxiliary to the Connecticut State Medical Association.
Reprint from Bulletin of Woman's Auxiliary to AMA, March, 1950.

Department of Health, State Medical Society, and other sources.

3. The promotion of better school facilities, as pertains to health teaching, first aid and sanitation.

4. Urge the development of a community health council, with the above project on its program. Representatives of various community agencies and organizations would pool ideas for better coordination.

5. A graduate nurse and trained attendant recruitment program. This would be developed in cooperation with the high school officials and leaders in the nursing profession.

6. Nursing scholarships. A scholarship from each of the 85 clubs of the Federation would go a long way toward improving the shortage of nurses.

7. Try to develop an interest in the problems of the mental hospitals of the state.

8. Urge the establishment and use of Public Health Nursing services.

HOBBY SHOW

A hobby show is to be held in connection with the Sioux City meeting next spring. The Auditorium has excellent space for presenting such a show and so Dr. Thornton, our president, has decided to appoint a committee to work out a good exhibit.

Any physician having hobbies he would like to show is asked to write the central office for the time being. As soon as the committee is appointed, an announcement of its personnel will be made so that inquiries can be sent to it.

SCIENTIFIC EXHIBITS

The scientific exhibits at the Sioux City meeting will far exceed in number any other previous meeting. There is ample space for them and the committee is already working to get as many as possible.

Dr. E. A. Fullgrabe, 2100 Court Street, Sioux City, is chairman of the committee. Other members are Dr. R. H. Flocks of Iowa City and Dr. John J. Rowe of Waterloo. Any physician willing to prepare a scientific exhibit should write one of these men and reserve space.

DISTRICT COUNCILOR MEETINGS

October 3 Sixth councilor district meeting at Country Club, Marshalltown.

October 11 Fifth councilor district meeting at Holst Hotel, Boone.

CHANGE OF ADDRESS

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CANCER OF THE COLON AND ITS EARLY DIAGNOSIS

Wendell G. Scott,* M.D., St. Louis, Mo.

The most misunderstood organ in the body by the laity is the colon. In general most people are certain they know all about this organ. They ascribe all manner of ills to it and prescribe for themselves innumerable home and drug store remedies without the slightest compunction. Many who are not physicians are certain that they are competent "colon specialists on minor ills" as illustrated by the report in Figure 1.



FIGURE 1

Advanced Adenocarcinoma of the Rectum Allowed to Develop
Because of Ignorance and Self Medication

This 38 year old housewife had her first symptoms of rectal disease some 10 years ago when she developed an anal fissure and treated herself. For the past two years she has complained of constipation and irregular bowel habits. During the past 18 months she states that the rectal wall was everted with each bowel movement. She has noticed bright red blood in her stools for 18 months. One year ago her husband removed "a wart"

from the rectum. Throughout this period of time this patient did not seek medical advice largely because she did not realize the necessity of consulting a physician for these symptoms and felt adequate to treat them by home remedies. This carcinoma could have been found by a physician by a careful digital examination and in an early and curable stage.

This attitude by the laity is disturbing for two important reasons: First, it has given rise to misconceptions about the functions of the colon and about the significance of symptoms caused by disorders and diseases affecting it. Second, it has encouraged self medication and treatment.

These two conditions frequently result in delay and in procrastination at a time when a cancer is beginning, is curable and when it can be found by careful examinations. The key to the cancer problem of the colon, therefore, is in the education of the adult who is over 25 years of age. They must be taught that it is the minor symptoms and the minor changes in bowel habits which give the first warning of an early cancer. These are the symptoms for which they have been accustomed to treat themselves, but for which now they must seek medical advice and examination. Only in this way can cancer of the colon be detected in the early, in the operable and in the curable stage.

Cancer of the colon is a common disease. It is the second most frequent of all cancers of the gastro-intestinal tract and is exceeded only by cancer of the stomach. It forms about seven per cent of all cancers.

Approximately 50 per cent of the malignant growths occur in the rectum and distal sigmoid colon. They can be seen on proctoscopic examination. About 12 per cent of these can be felt by a digital examination. Figure 2 is a diagram showing the distribution and incidence of cancer in the various segments of the colon.

Redundant and overlying loops of sigmoid make the radiographic examination of this portion of the colon very difficult and require every effort on the part of the observer to avoid overlooking a small growth. This is the hardest segment to examine radiographically; yet it is the most frequent site for cancers. This fact alone explains why an examination of the colon is not

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complete without a digital exploration, a sigmoidoscopic study and a barium enema.

Location and Incidence of Colon Cancer

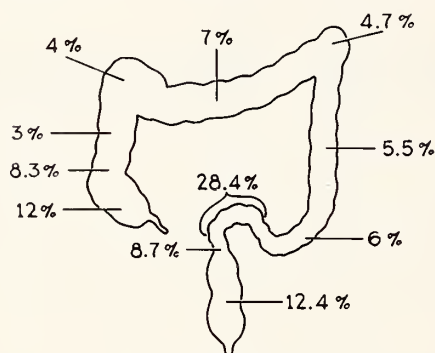


FIGURE 2

Diagram of the Distribution and Incidence of Cancer in the Various Segments of the Colon

About 50 per cent of all the cancers occur in the rectum and sigmoid and of this number approximately one-fourth can be detected by a digital examination.

Carcinoma of the colon is divided into four pathological types:

(1) The medullary or nodular type which forms the greatest percentage. They are usually large, bulky, fungating, friable tumors located in the proximal segment of the colon. They ulcerate early and metastasize late. They are slow to produce signs of obstruction, as in the right colon the fecal stream is liquid and the diameter of the bowel is large.

(2) The scirrhus type forms about 20 per cent. They usually develop in the distal or left colon. They tend to encircle the lumen and are prone to produce obstruction early as the fecal stream in the left colon is firm and the diameter of the bowel is smaller.

(3) The colloid or mucoid type is similar to the medullary in gross appearance and behavior. Microscopically the cells contain large amounts of mucoid material.

(4) The polypoid type usually degenerates from polyps. Many pathologists believe that polyps of the colon constitute a definite pre-cancerous lesion, and especially so when accompanied by an inflammatory disease of the colon.

Microscopically about 98 per cent of all types of colon cancers are adenocarcinomas. They begin as a localized growth in the mucosa and remain limited to a small segment of the colon usually as a sessile or pedunculated polyp. Consequently, the margins of the cancer begin and end abruptly. This characteristic provides a major sign in the radiographic differentiation between malignant growths and inflammatory disease involving the colon.

There is no definite clinical picture in cancer of

the colon, yet 97 per cent of these patients will have one or more of the symptoms listed below as indications for an examination of the colon:

1. The most important is rectal bleeding. Every patient who passes blood or has streaks of bright red blood in the stool must be given a barium enema as well as proctoscopic and digital examinations.

2. Changes in bowel habits need not be marked. Even the slightest change in patients over 40 years of age requires a barium enema if early cancers are to be found. I cannot emphasize this too strongly.

3. Marked constipation or diarrhea or combination of both are often the first signs of colon disease or of a well developed cancer. Notice I say "well developed."

4. Pus or mucous in the stools requires a barium study to determine the location and extent of an infection or of an ulcerated tumor.

5. Abdominal distention is significant. It may be the first indication of a partial obstruction due to an early cancer.

6. Cramping pains in the abdomen cannot be ignored for they, too, may mean the beginning of an obstructive cancer and are cause for a thorough examination of the colon.

7. Unexplained loss of weight can be caused by small ulcerated polyps as well as from the slow bleeding of a malignant growth.

8. One of the most common sites of abdominal tumors is the colon and when palpated must be identified.

9. Hemorrhoids, in themselves, are an urgent reason for examining the colon. You have all seen patients who had operations for hemorrhoids because of rectal bleeding and who returned some months later with a cancer at a higher level, well advanced and in an incurable stage. These could have been found by a barium enema and a proctoscopic examination and successfully treated at the time of the hemorrhoidectomy.

Only about ten patients out of every 100 examined by a barium enema have a demonstrable organic lesion of any kind. This is not a disappointment, because the larger the percentage of negative examinations, the greater will be the chance of finding early cancers, and that is our objective. Do not wait for the textbook symptoms to develop before acting, order the barium enema on suggestive symptoms. Order it on suspicion!

One of the most important methods for examining the colon for cancer is the barium enema. It must always be done with the greatest regard

for accuracy. I do not hold that only a radiologist is capable of doing this examination, but I do hold that a physician who assumes this responsibility must be able to do it equally as well. Otherwise he is subjecting his patient to an inferior examination and he is placing himself behind a screen of false security. It is not the x-ray equipment, that makes the examination, but the trained physician who operates it. As for equipment, high grade tools in the long run help to do a better job and for that reason, the roentgen apparatus should be up to date with a capacity of at least 100 milliamperes and fitted with a Potter-Bucky grid. It should be capable of making exposures at one-half second and of course, equipped for fluoroscopy.

Four things are important in processing the x-ray films:

1. A clean, light-proof and well ventilated darkroom is necessary.

2. The chemical solutions should be fresh. They should be changed every two weeks, irrespective of the amount of work.

3. Solutions should be maintained at a constant temperature of 68°.

4. Follow the rules published by the film companies. Sloppy darkroom technic can make the film from a \$10,000 machine look like ten cents.

Protect yourself by wearing a lead-rubber apron and gloves; protect your patient by keeping the fluoroscopic exposure to a minimum. Keep in mind that "fluoroscopy entails more thinking than looking," and do not keep your foot on the x-ray switch while thinking. As an added precaution, have your x-ray service man put an additional millimeter of aluminum filter over the window of the x-ray tube. This will not reduce the intensity of the fluoroscopic image, but will cut in half the amount of x-ray that strikes the patient's skin. This doubles his safety factor. Give the patient the benefit of your full vision by getting your eyes completely dark-adapted. Thirty minutes is required if you have just come in from outdoors; ten minutes, if you have been indoors using artificial light.

The success of the barium enema depends largely on a careful preparation of the patient. I prefer to give the patient one ounce of castor oil at 2 o'clock in the afternoon preceding the morning of the examination. This allows sufficient time for it to act without disrupting the patient's rest at night. One ounce is adequate as it has been shown that this is the largest amount that the body can metabolize. The patient is allowed to have a light supper the evening before, but breakfast is omitted the following morning. Some

radiologists prefer to supplement this preparation with a cleansing soap suds enema in the morning, but this is not necessary.

The barium solution is made fresh each morning by pouring six ounces of barium into one and one-half quarts of luke warm water and agitating it by an electric mixer for five minutes to make a smooth suspension. The mixture should be used at once as the barium is prone to settle out.

The patient previously has been placed on the x-ray table and is lying on his left side with his right knee drawn up toward the abdomen. With the patient in this position, do an efficient digital examination of the rectum prior to inserting the enema tip. It is surprising how few physicians perform this fundamental examination even in this enlightened age. The rectal ampulla is a large cavity and small lesions can be hidden by the overlying barium.

The injection is always started with the patient lying in the left posterior oblique position in order to separate the overlying and redundant loops of the sigmoid and to give better visualization of the rectal ampulla and the recto-sigmoid junction. In most cases these important segments are best visualized in this position. The first few moments of the injection afford an excellent opportunity for observing these loops. The remaining portion of the colon is carefully viewed on the fluoroscopic screen as it is filled. The inflowing barium solution is not stopped until it reaches the cecum. All the segments of the colon are pushed about by the palpating hand to find areas of fixation, to dislodge gas bubbles, to confirm the constancy of any filling defect, to detect the presence of an associated mass and to localize areas of tenderness.

The ileo-cecal valve is not forced except when the clinical symptoms suggest an involvement of the terminal ileum or when an unidentified mass is present in the right lower quadrant. After the colon is filled, the enema tube is withdrawn and the patient is rotated first to the left to separate the loops of the hepatic flexure and then to the right to separate the loops of the splenic flexure. In this way the overlying loops of bowel can be viewed in relief and from different angles to minimize the chances of overlooking filling defects.

Following the fluoroscopic study, the patient is turned over on the abdomen and the prone film is made. Films should also be made in the oblique positions if the defects are better demonstrated in these angles. Always film suspicious areas and be generous in the use of films made in the oblique positions. The detail and contrast on the films is so much better than the fluoroscopic image that

the slight additional cost is not to be considered in establishing a correct diagnosis.

As soon as the films are taken, the patient goes to the toilet and is urged to expell as much of the barium suspension as possible before returning to the table for the evacuation film. This film is usually made in the prone position, but it can also be made at any angle that demonstrates the lesion. The evacuation film is essential for an adequate study of the colon as it records the mucosal pattern and also serves as another check on the presence of an actual or questionable filling defect. Before the patient gets dressed the films

are viewed to determine if an air contrast enema might offer additional information or provide better delineation of the defect.

The air contrast enema is done by connecting the enema tube with a rubber hand bulb. The enema tip is then inserted and air is slowly pumped into the colon under fluoroscopic guidance. No more air should be used than is necessary to distend the colon. Avoid forcing air into the terminal ileum because the shadows of the loops of small intestine will overlies the large bowel and obscure it. As soon as the colon is filled, the patient is turned on his abdomen and

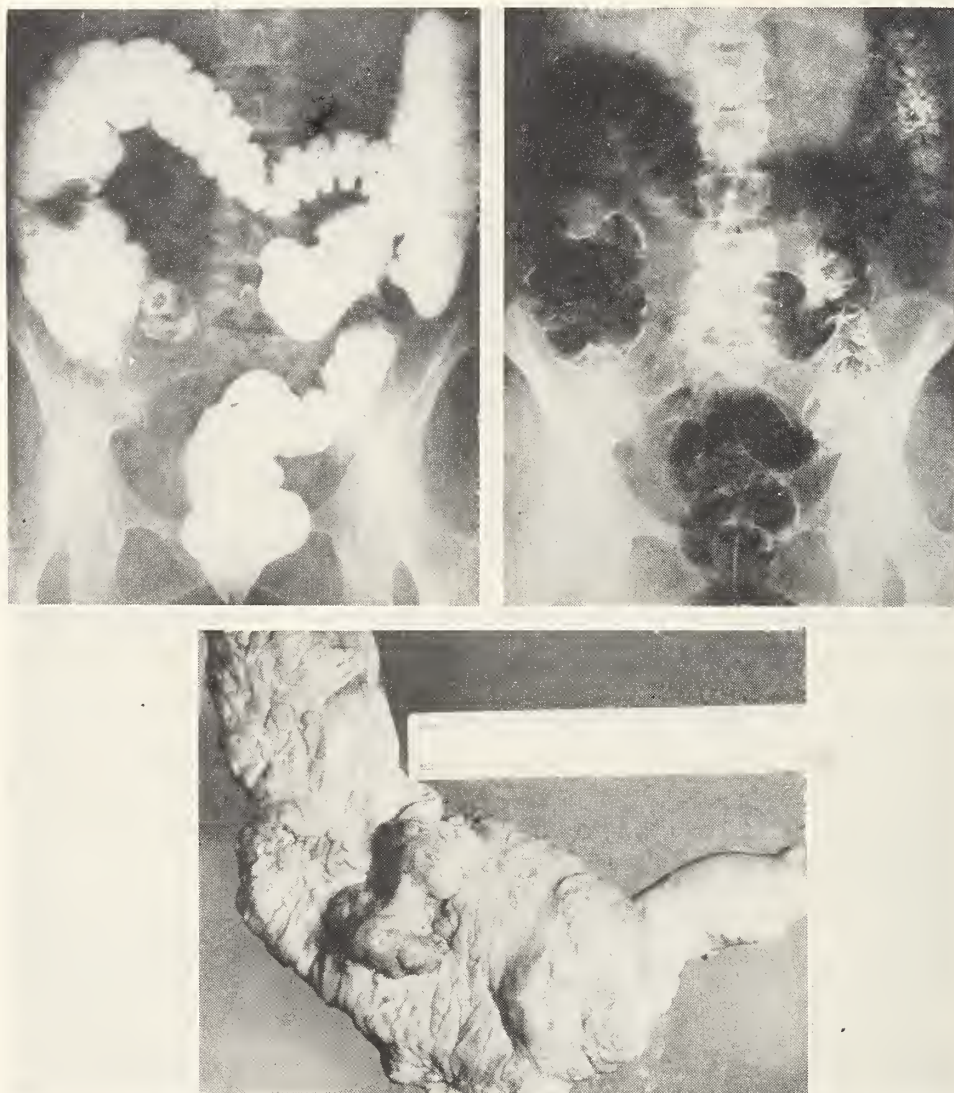


FIGURE 3

Early Adenocarcinoma Arising in the Medial Wall of the Proximal Ascending Colon Demonstrated by the Negative Filling Defect in the Barium Filled Colon on the Left and as a Barium Covered Mass Protruding Into the Lumen Into the Air Contrast Film on the Right

This 43 year old divorced clerk complained of poor appetite and weight loss of 11 pounds in the past nine months. About six months ago she noticed a few small flecks of bright red blood on her stools. She was a little alarmed, but did not seek medical advice until three months ago when a questionable mass was

felt by her physician in the right lower quadrant. A barium enema was done at that time and a suspicious defect observed in the ascending colon. The examination was not repeated until two months later when she was sent here at which time the tumor was demonstrated on the above films. The terminal ileum cecum and a large portion of the ascending colon were resected and the terminal ileum anastomosed to the remaining proximal segment of the colon.

Examinations should be repeated in 2 to 3 weeks to check on suspicious findings and in cases with negative examinations, but in which symptoms persist—do not wait and observe for longer intervals while cancers are growing.

stereoscopic films are taken as quickly as possible. They afford a three dimensional view and in this way one can determine whether or not a shadow projects into the lumen and is or is not a polyp or new growth. The patient is turned on his back and an antero-posterior supine view is taken.

An air contrast enema should not be attempted when the barium mixture has regurgitated into the terminal ileum from the original enema, as the barium usually remains in these loops and obscures the lower colon. It is better to repeat the examination in 24 or 48 hours and fill the colon with barium only as far as the middle of the transverse colon. Then allow the patient to evacuate it and proceed with the air study. The evacuation of the original barium enema should be accomplished within a matter of two minutes and the patient immediately returned to the examining table while the colon is "wet."

The Virdan enema tip is very useful for injecting either the barium suspension or air into patients who are unable to control their anal sphincter. This device consists of two rubber tubes, the inner of which connects with the barium or air supply and carries the contrast media to the colon while the outer tube leads to a balloon on one end and is connected to a small hand rubber bulb on the other. The tube is inserted so that the balloon is in the rectal ampulla. One or two squeezes of the hand bulb blows it up to fill the ampulla and closes the outlet at the anus. In no instance must the barium solution be forced into the colon but always allowed to flow by gravity from a height of about 30 inches above the table.

Since cancer of the colon starts in a small localized area in the mucosa, the filling defects produced by it will begin and end sharply. They will occupy short segments of the colon, are constant in size and shape and unchanging in appearance. A mass can usually be palpated at the site of the defect. When the disease is advanced the lumen of the bowel may be completely obstructed. If there is any doubt in the mind of the examiner about a constancy of this defect, the examination should be repeated within three or four days. If the first proctoscopic and radiographic examinations of the colon are negative, but the patient continues to have symptoms or to pass small quantities of blood, then the examinations should be repeated within two or three weeks. Do not wait two or three months because during that period of time a cancer can become incurable. Air contrast enema frequently are very helpful in delineating the full extent of the tumor. Occasionally the lumen at the site of the tumor may be so small as to prevent the

passage of the barium but will allow air to pass so that the examiner can see both the proximal and distal boundaries of the tumor. The air contrast studies are most useful in the detection of small polyps and tumors as demonstrated in Figure 3. In the interpretation of the air films one must be extremely careful to be certain that the defect is constant as small globules of oil or air bubbles can simulate the shadows produced by early growths.

In our effort to detect and diagnose cancer of the colon in the early curable stage, everyone that is involved in this problem—the patient, the examining physician and the radiologist—can make worthwhile contributions in fighting this malignant growth.

The patient must be educated to realize that he must seek medical advice and counsel for:

1. Minor changes in bowel habits.
 2. The appearance of even small amounts or traces of blood or mucous in the stools.
 3. Increasing fatigueability.
 4. An unexplained loss of weight.
- The examining physician must:

1. Obtain a careful history on each patient's bowel habits.
2. Order radiographic examination of the colon on only suspected or suspicious symptoms and clinical findings.
3. Perform a routine digital and proctoscopic examination in the study of new patients.
4. Do not attribute rectal bleeding to hemorrhoids without a negative proctoscopic and x-ray examination.

The radiologist must:

1. Have proper equipment, achieve dark adaptation and provide proper radiographic protection for the patient and personnel.
2. Perform a digital examination before giving the barium enema.
3. Fluoroscope patients in the oblique position.
4. Take an adequate number of films to fully demonstrate all the loops of bowel.
5. Use air contrast enema for further delineation of questionable filling defects.
6. Repeat the colon examination if the patient's symptoms persist after a negative examination.
7. Any and all examinations of the colon must be done accurately or not at all.

FRACTURE OF THE DISTAL END OF THE RADIUS

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Fractures of the distal end of the radius constitute a considerable portion of the skeletal lesions, due to trauma, seen by the general practitioner or surgeon. These fractures occur at all ages and are usually the result of reflex protective attitudes assumed in breaking a fall, the hand and arm being extended as a means of lessening the abrupt contact of the body with the ground. Prior to the introduction of self-starters on automobile engines, similar injuries to the distal radius resulted from "kick backs" experienced while cranking these engines. Injuries to the distal end of the radius are not a product of our modern age but have been encountered by surgeons since earliest times. Today we are equipped with instruments of precision which reveal most accurately the details of fractures and dislocations and guide us in the understanding and management of these injuries. From the time of Hippocrates to the latter part of the 18th century, the typical silverfork deformity at the wrist resulting from injury was considered a posterior dislocation of the carpus. In 1783, an excellent description of fractures of the distal end of the radius appeared in the writings of Pouteau published posthumously. About 30 years later, Colles of Dublin described this injury and recorded a classical description based on his observations of specimens, clinical experiences and experiments. A quotation from one of Colles' lectures reveals the accuracy of his observations.

"When you look at the carpal end of the radius, you would suppose that the fracture near it must be very uncommon, yet it is really the most frequent seat of most accidents in that bone—but why I cannot say; it is not easily discovered on account of the swelling which rapidly supervenes here as well as in other injuries about the wrist and elbow. This fracture takes place an inch and a half above the carpal ends of the bone; the deformity produced, precisely resembles what Dessault calls a dislocation of the carpal end of the radius, and I am very much disposed to think he sometimes mistook one case for the other. On looking at it posteriorly there appears a depression in the forearm about an inch and a half above the lower extremity, and considerable swelling of the carpus and metacarpus; on looking in front there is a fullness, as if the flexor tendons were thrown forwards, which extends upward about one-third of the forearm, and below to the annular ligament of the wrist;—the end of the ulna is seen projecting more or less towards the palm and inner edge of the limb,

and can be moved backwards and forwards very readily;—a depression may be felt in the radius behind at the seat of the fracture, but on trying to move the broken ends on each other, no satisfaction as to the nature of the injury can be obtained from mobility or crepitus; no crepitus can, by any maneuver, be felt until you extend the parts by holding the patient's hand in yours;—if it is his left hand take it in your left hand, locking your thumb in his, and make extension; when you make extension, all the deformity readily disappears, and by rotating as well as extending the hand, you can then detect the crepitus. Should this case be mistaken for sprain or luxation of the wrist, the treatment will, when it is too late, be found to have done no service; the deformity will remain for life; there will be for months stiffness of the limb and pain on attempting to flex the hand and fingers—but at some distant period the use of the member will be quite restored; the hard swelling of the back of the hand, for it does not feel like that of an effusion, is caused by the carpal surface of the radius being turned slightly backwards, carrying the carpus and metacarpus with it out of the proper direction, and this is produced by the extensor muscles of the thumb, the resistance being removed by the fracture; and effusion into the sheath of the flexor tendons accounts for the fullness in front."

In 1820, Dupuytren popularized the concept of the lesion described by Colles, revolutionizing the previous teachings. Since Colles' time, little has been added to the subject except a more accurate understanding of the details revealed by the roentgenogram. Various classifications of fractures of the distal end of the radius are encountered in modern texts with much confusion resulting. Each variant of the fracture line has been described and designated by proper names as was the custom during the 19th century, during which time, great advances in our knowledge of fractures took place.

Fortunately, at the present time, fractures of the distal end of the radius are generally classified as Colles' fractures although the use of this term is incorrect and fails to designate the details of the lesion. The very presence of a fracture just above the wrist indicates that the ability of the radius to withstand excessive forces has been exceeded. The position of the hand in relation to the arm and body and contacting contour of the ground, during the brief period of a fall, results in a wide variety of stresses and various types of fractures.

Anatomically, the radius is the weight bearing bone of the forearm. Its broad concave articular surface faces slightly towards the volar as well as the ulnar aspect of the wrist resulting in a lower position of the posterior radial lip. The radius articulates with the carpal-navicular and

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lunate bones, the so-called carpal condyle. These bones of the proximal carpus move on the articular surface of the radius in a rocking, gliding and somewhat rotary manner with the various movements at the wrist joint. The styloid process of the radius is slightly distal to that of the ulna. The cortex of the radius at the level of the epiphysis is thin, especially on the slightly convex dorsum about three cm. proximal to the articular surface. This area of thinned cortex is particularly vulnerable to compression forces.

On viewing the palmar surface of the hand with the wrist in extension, it will be noted that thenar eminence is distinctly more prominent than the hypothenar region and that on contact with the ground, as in a fall, this area will be subjected to the body weight as it is transmitted through the radius and ulna. The carpal navicular is the main bony structure of the carpal condyle and transmits the weight force from the radius through the thenar eminence to the ground. The high incidence of fractures of the carpal-navicular bone seen in the last war attest to its function as a weight bearing structure.

In the course of a fall, the hand, in most instances, is in quite marked extension at the wrist, and the volar ligaments of the wrist joint are taut. A continuing force fractures the posterior cortex of the radius permitting the radius to pivot into pronation while the distal fragment assumes a position of extension and supination in relation to the shaft of the radius itself. As the fracturing force continues and the radius shortens by impaction and angulation, the shaft of the radius and ulna tend to move medially in relation to the hand while the distal fragment of the radius deviates radially. This results in protrusion of the ulnar styloid process and tension of the ulnar collateral ligament of the wrist. With sufficient force, the lateral collateral ligament ruptures or the ulnar styloid is avulsed and displaced radially. Occasionally, the ulna continues on through the soft tissues compounding the fracture.

The distal fragment of the radius may well be considered as being in a position of (1) Extension in relation to the long axis of the shaft of the radius; (2) Supination in relation to the positions of the radius and ulna and (3) Radial deviation or displacement of the distal end of the radius.

As the hand returns to a neutral or slightly flexed position at the wrist joint, the characteristic "silverfork" deformity becomes evident. This is accentuated by the prominence of the soft tissues on the volar aspect of the wrist as they

pass over the angular apex of the fracture so well described by Colles.

The great variety of fractures encountered as the distal end of the radius reflect variations in the direction of forces acting through the wrist joint, the result of the various position of the extremity at the time of impact.

The injured wrist should be carefully studied before any reduction is attempted. The status of the circulation and sensation is observed and recorded with special reference to the median nerve which may be injured as it crosses the angulation of the fracture. Good roentgenograms should always be made and the carpal bones inspected for evidence of injury.

Reduction of the fracture should be done as soon as possible preferably under a general anesthetic since muscular relaxation is of utmost importance.

With the patient supine and the upper arm held to the table by an assistant, the forearm is brought to a vertical position. The hand is grasped firmly by the corresponding hand of the surgeon. Traction and guarded extension at the fracture line is applied to break up any impaction. Pressure is exerted on the dorsal and radial aspect of the distal fragment as the hand is brought into a position of flexion, pronation and ulnar deviation by a single maneuver. When this is done properly, the wrist and hand will maintain a flexed position without support if the forearm remains in a vertical or horizontal position. The position of the reduced fracture is compared to that of the normal extremity held in a similar position. A well padded circular plaster splint is applied to maintain the position without tension on the dorsal structures. This splint extends from the elbow to the distal palmar crease leaving the fingers and thumb free.

Postoperative precautions are important and are especially directed towards the prevention of swelling by elevation of the forearm on pillows or overhead frame. Movement of the fingers actively and passively is begun immediately in order to prevent loss of function.

The flexed position is maintained for about ten days when the splint is replaced and the hand carefully brought to a neutral position. A third splint may be employed after another ten days, at which time, some extension of the wrist is obtained. Postoperative check-up x-rays are made immediately after reduction and subsequently as indicated.

The manipulative technic outlined above will be found to be satisfactory in the vast majority of cases, the exceptions being the severely com-

minuted fractures and some of the less typical ones.

In young patients, a fairly firm union occurs in three to four weeks whereas prolonged splinting may be necessary in older patients.

Fractures of the distal end of the radius are not devoid of complications, but these can be kept at a minimum by complete reduction of the fracture and preservation of finger joint function. Fractures involving the wrist and radio-ulnar articulations usually develop some degree of arthritis. Fractures in the aged often result in some shortening of the radius and prominence of the ulna due to absorption of the cancellous bone at the line of fracture.

Reflex circulatory rarefaction of the bones of the hand is common in middle aged women and many elderly patients. This can be minimized by early activity of the fingers while in the splints and by judicious physical therapy. The constant

fingering of a rubber sponge or of bouncing plastic putty is helpful.

Severely comminuted fractures may necessitate skeletal fixation, pins being inserted transversely through the metacarpal bones and ulna and incorporated in the plaster splint so as to maintain length and normal position of the bony fragments.

No attempt will be made to describe the innumerable technics advocated for reduction of this fracture. Most of these will be successful if complete reduction is obtained.

The technic described above is presented in the belief that reversal of the deformity is logical and that an understanding of the causative factors will simplify its application. The deformity of extension, supination, and radial deviation of the distal end of the radius must be corrected by flexion, pronation and ulnar deviation. Fractures of the distal end of the radius are major fractures and must be treated as such.

EARLY DIAGNOSIS OF CONGENITAL DISLOCATION OF THE HIP

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When the treatment of a congenital dislocation of the hip is started in children before they begin to walk, the hip develops normally in the

The hip is rarely completely dislocated at birth. The majority of patients are born with a slanting acetabular roof, and during the first months of life the femoral head slides gradually out of the acetabulum (Fig. 1). The dislocation is often not well established until after the patient be-



Figure 1. Hip joints of a two month old infant who died of accidental death. The acetabular roof of the right hip was

shallow and the right femoral head was "on its way to dislocation."

great majority of cases. On the other hand, if the treatment is not started until after the onset of walking, an imperfect hip joint often results. Thus, the diagnosis of a congenital dislocation of the hip should be made during infancy if good results are to be obtained. Upon the pediatricist and the general practitioner falls the responsibility for an early diagnosis.

gins to walk. The clinical signs which point toward a defect of development of the hip joint are:

1. Limitation of hip abduction (Fig. 2). This is tested with the patient lying down in supine position with the knees flexed at 90°. The range of hip abduction varies somewhat in normal infants, but usually the thighs can be abducted simultaneously until they almost touch the examining table. A dysplastic or a dislocated hip is

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Figure 2. Limitation of right hip abduction in a five week old infant with congenital right hip dislocation.

manifested by a limitation of hip abduction. If the dislocation is bilateral, the limitation of hip abduction makes the change of diapers cumbersome.

2. "Snapping Sign." When testing for the range of hip abduction, a snapping of the hip may be elicited if the patient is completely relaxed. The snapping is produced when the head



Figure 3. Apparent shortening of the right thigh due to right hip dislocation. The right knee appears lower. Two extra skin folds are present in right thigh.

of the femur slides over the shallow rim of the acetabulum. After the snapping, the hip can be freely abducted.

3. Apparent shortening of the thigh (Fig. 3).

4. Assymetry of the folds of the thigh and of the gluteal folds. On the side of the dislocation the folds are more abundant, deeper, and more proximal (Fig. 3).

Roentgenograms of the pelvis should be taken whenever any of the clinical signs of hip dysplasia are present. It may be difficult to diagnose a defect of development of the hip joint in babies. The femoral head and a great portion of the

acetabulum are cartilaginous and thus not visible on the roentgenograms. After three or four months of age, changes in the hip joint are apparent. The acetabular roof is shallow; there is delay of ossification of the femoral head, and the

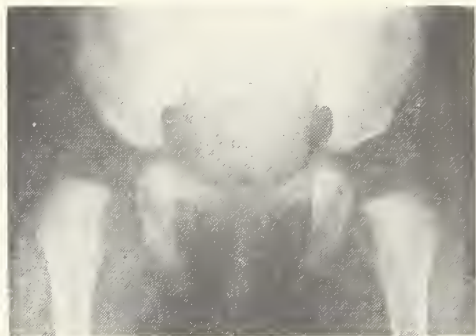


Figure 4. Roentgenograms of a six month old infant with right hip dislocation. The acetabular roof is shallow, there is delayed ossification of the femoral head, and the upper end of the femur appears displaced laterally and upwards.

proximal end of the femur is displaced laterally and upwards (Fig. 4).

The "snapping sign" and the limitation of hip abduction are the most reliable early signs of hip dysplasia. Hip abduction should be tested routinely in infants. Assymetry of the inguinal folds is seen sometimes in normal children. It is not a diagnostic sign of hip dysplasia but rather a presumptive sign.

The treatment of a congenital dislocation of the hip should be started as soon as the diagnosis is made. Early treatment consists of the application of a pillow splint between the legs to maintain the thighs in abduction and flexion (Fig. 5). The child wears the pillow splint for many



Figure 5. Pillow splint to maintain hips in abduction.

months until the x-rays show that the dislocated hip has reformed normally. If the treatment is not started until after the onset of walking, it is necessary to reduce the hip under anesthesia and to place the legs in plaster casts for several months.

MIXED TUMORS OF THE SALIVARY GLANDS

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In the past three years, I have had occasion to care for a small number of patients with diseases involving the salivary glands. These diseases included inflammations, calculi and tumors of different types, such as may occur in the practice of any general practitioner, but perhaps more frequently in that of the ear, nose and throat specialist.

Among these various conditions I found my interest particularly awakened by the so-called "mixed tumors" and when Dr. Dean Lierle asked me to contribute a paper for the 1950 meeting this subject was the one I picked for discussion.

Needless to say my own series, which included four tumors of the parotid, two of the submaxillary, two of the palate, one of the septum and one of the cheek, was both too small and too recent to be worthy of presentation, and my paper has therefore been based entirely on the quite voluminous literature on this subject.

Few pathologic entities have remained a source of argument as long as this one, which has been under discussion since the eighteenth century as to etiology, pathogenesis, histopathology, clinical aspects and treatment. The first tumor of the parotid recorded is that of Kaltschmied in 1752, who called it a schirrhous tumor and removed it by excision.

The name "mixed tumor" which is still in universal use, although, in the light of our present knowledge it is no longer appropriate, was first used by Minssen in 1874 to comply with the then prevalent idea that these tumors were engendered by neoplastic processes arising in both epithelial and connective tissue at the same time. Other names have been suggested, such as "muco-epidermoid tumors" but have not been generally accepted.

The multiplicity of histologic pictures found in these tumors in various combinations, and simulating both epithelial and mesenchymal types was the origin of the conception of a complicated binomial structure, and this idea still crops up in the literature.

The prevailing microscopic appearance suggests epithelial cells, hyaline, mucinous, cartilaginous,

osseous fatty and muscular tissue. These tumors have been variously described as chondromas, endotheliomas, mesotheliomas, cylindromas, adenochondromas, chondrocarcinomas, sarcomas, branchiomas, enclavomas, teratomas and basalomas.

These names not only indicate the many varieties of structure observed or thought to be observed, but also the many different theories, involving the origin of these tumors. Willis, in a recent thorough study of the subject, suggested the word "pleomorphic" as a better name to describe these tumors and their varied histologic appearance, which appears most frequently as a combination of epithelial and myxomatous or cartilage-like elements.

Strangely enough even the normal embryologic origin of the salivary glands is not definitely settled. Some authors state that the glands arise from the branchial clefts; others, more numerous, state that they are formed from the original epithelial lining of the mouth. This difference is of some importance since some of the theories as to the origin of the tumors can be supported or excluded on the strength of the embryogenesis of these glands.

There are five main theories as to the starting point of the mixed tumors:

1. The embryonic or enclavement theory. According to this concept, the tumors arise from the embryonic tissue pinched off in the region of the salivary glands. The tissue remains quiescent until stimulated at a later date to renewed and abnormal activity. This theory was that of Conheim. While he did not insist that the branchial cleft had to be the point of departure of these enclavements, he felt that this would best explain the coexistence of epithelial and mesenchymal tissue in the same tumor. He felt that the occasional appearance of mixed tumors near but separated from the salivary glands was best explained in this manner. Among the more modern writers, McFarland, one of the most thorough and prolific investigators of this subject, is a supporter of this theory.

2. The mesenchymal theory. This theory somewhat resembles the former and was suggested by some of the early German writers in an effort to explain the complicated structure of the stroma of these tumors. According to this theory, there is a pinching off of mesenchymal tissue which on later stimulation grows abnormally enclosing and modifying portions of the epithelial gland tissue. This concept nullifies the importance of the epithelial tissue to the connective tissue.

3. The ecto-mesodermal theory. This idea was propounded by Massabau in 1907 from the suggestion of Wilms in 1898 and supported more

recently by Hellwig. The theory states that there is an enclavement of epithelial and mesenchymal tissue both deriving from the embryonic ectoderm.

4. The endothelial theory was first suggested by Wartmann in 1880 and was based on the similarity of the tumor cells with the endothelial cells lining the lymphatics. Volkmann also believed that mixed tumors could be traced to the controversy with the followers of the epithelial theory. Hinsberg, Ribbert and Krompecher finally confuted it on the basis of accurate histologic studies. In 1907, however, Martini claimed to be able to demonstrate the continuity of tumor tissue with lymphatic ducts.

5. The epithelial theory was first formulated by Von Bruns in 1859 and is now the most generally accepted one. Ringerts, Ahlbom, Ewing, Willis and many others have accepted it, although sometimes with reservations, as the most logical. Probably the clearest and most convincing work that sustains this last theory is that of the English writer Fry to which I will return later.

According to the epithelial concept these tumors rise from the ducts and occasionally the alveoli of the salivary glands themselves and contain both pavement and glandular types of tissue. The glands rise from the ectoderm of the primitive oral cavity, not from branchial anlage. This helps explain the not infrequent occurrence of mixed tumors in areas outside of the glands as the nose, the palate, the lip and the cheek.

There are still two schools of thought as to the actual origin of the tumors. One theory is that they arise from embryonal rests which undergo atypical development; according to the other theory, they are caused by differentiation of adult tissue. The changes present in the stroma are explained as being due to reaction and metaplasia.

Mixed tumors were first described as a clinical entity by Billroth in 1859. From the very first, differences of opinion arose because of the many possible manifestations of this disease as to whether they were benign, malignant or could suddenly change their nature from the former to the latter.

The tumor first presents itself as a small firm nodule arising in or near one of the salivary glands, freely movable and indolent. Its growth is usually extremely slow, and it may remain apparently unaltered for many years, (one case reported by Wood made no apparent change for 57 years) and then begin to grow rapidly. Too, it may grow quite rapidly from the beginning, or go through varying phases of alternately rapid and slow growth. The surface is usually smooth although occasionally it may be nodular; it is firm and sometimes very hard, and if it is buried in

the gland tissue its contours may be definite giving the impression of a diffuse swelling of the gland. The tumor usually remains quite movable until it has reached a large size. Soft areas may appear in its later stages, but breaking down or ulceration never occurs unless it is injured either accidentally or by operative procedures.

Metastases are extremely rare but have been reported both in the regional lymph nodes and in more distant organs, especially the lungs. The tumor rarely causes any discomfort except its size, weight and unsightly appearance. Occasionally it may be accompanied by pain if it involves the trigeminal nerve or facial paralysis if it impinges on the facial nerve. The tumor has no effect on the general health of the patient. Mixed tumors may appear at any age. The earliest reported was diagnosed at two weeks; the latest, one reported by Ahlbom which appeared at the age of 84, but the great majority occur in the third or fourth decades of life.

The most frequently involved region is that of the parotid gland, with about 80 per cent of the reported cases; the submaxillary gland is next with about 3 per cent and the sublingual gland 0.5 per cent. The remainder have been reported in the palate, both hard and soft, the cheek, the pharynx, the upper lip, the nose, the tongue and the lachrymal glands.

The sexes are about equally represented and so is the side of the tumors although there appears to be a slight preponderance of tumors on the left side. They are always unilateral.

The differential diagnosis from other conditions involving these glands, with the exception of other tumors, offers no difficulty. Epidemic parotitis is characterized by its sudden onset, pain, fever, malaises, history of contagion and short duration. It usually is bilateral. Miculicz' syndrome involves all the glands equally.

The differential diagnosis from the other tumors which occur in the salivary glands is difficult and can usually be made only after microscopic study. Among the tumors which have been observed, are Hodgkin's disease, hemangioma, lymphangioma, leiomyoma, perineural fibroma and adenoma. Cystadenoma papillaris lymphomatosum is also found and represents a true salivary gland tumor but of an entirely separate type. Sarcoma has been reported, but most authorities now believe that it has been erroneously diagnosed as such and represents an unusually undifferentiated type of epithelial tumor. Regarding this, the question has been raised and has not been answered satisfactorily as to whether all the epithelial tumors found in these glands belong to the same family varying in activity and characteristics, or whether

the mixed tumors are to be separated from other more malignant, active metastasizing carcinomas, as recently maintained by Quattlebaum, Dockerty and Mayo.

It is agreed that there is a startling difference in the clinical course that these tumors may follow. The great majority, if untreated, will grow indefinitely and slowly without causing complications other than those produced by the enormous size and weight which they may reach. Tumors have been reported in the parotid that weighed 22 pounds and in the submaxillary that weighed 12 pounds.

Others, however, may grow rapidly invading the surrounding tissues and lymphatics and resulting in early death. In both groups a common salient feature is their tendency to recur when removed. This recurrence may take place after many years. McFarland reported one case of recurrence 47 years after removal.

Microscopically, mixed tumors are always encapsulated. The capsule is smooth and shiny and varies in thickness at different points. It is usually fairly resistant to laceration. The color of the tumor is usually greyish but may show dark red patches or purplish areas. When it has reached a certain size, it may appear nodular or even lobulated. When cut or torn, the content is exuded as a rather granular, poltaceous mass without any definite structure.

The tumor has little or no connection with the surrounding gland, with only a few slender shreds containing very fine blood vessels being present at what might be called the hilus.

Microscopically the appearance of the tumor tissue is so varied that it is difficult to describe simply, and its many variations have given rise to tremendous confusion in the minds of investigators as to its structure and origin.

It may be said to consist mainly of two parts, parenchyma and stroma which are present in different proportion in the different cases and also in different parts of the same tumor.

The English pathologist Fry has given the most satisfactory and simple description and explanation of the structure of these tumors. He divides mixed tumors into two main types: one in which the cells are abundant and the stroma scant and the other in which the cellular elements are widely scattered in abundant stroma. Both types may be represented in the same tumor.

In the cellular type the cells, which are closely packed, may be cuboidal, round, columnar, polyhedral, spindle-shaped or squamous with or without spines. They have a large, rounded, well marked nucleus deeply colorable with hematoxylin and are arranged in clumps, strands, alveoli or tu-

bules, surrounded by mucinous material and loosely arranged connective tissue.

The cellular arrangement may closely simulate the normal salivary tissue and ducts, acini and zymogen granules. The arrangement may have a less regular adenomatous appearance or may present itself as solid formations arranged like ducts and acini but without lumen, may take on a cystic appearance or may show up as stratified epithelium with prickle-cells and even cornification and pearls. Mytotic figures are rare. Blood vessels are also rare and small.

In the second type, the stroma predominates and consists of a loose network of thin connective tissue supporting large masses of a substance resembling both microscopically and in its staining qualities, mucin. Here and there in the mass are cells either triangular or spindle-shaped, sometimes with strands extending from them and small irregular nuclei without definite markings.

When this appearance is very marked it causes the myxomatous appearance so often described. The mucin is easily colored by Mayer's mucicarmine. There are two types to be found: one which has a fibrillar structure and one with a hyaline appearance. Where these masses are particularly large, especially toward the center of the tumors, the cells are seen either alone or in pairs, surrounded by a sort of vacuole of mucin. It is these areas which closely simulate the appearance of embryonic cartilage and first gave rise to the term "mixed tumors." In both types of tissue the vessels are represented by fine tubes consisting in the main of the endothelial layer only.

The cells are definitely epithelial in origin, according to Fry, Patey, Harvey and Dawson and can be proven to originate especially from the normal gland ducts but also from the secreting cells. The mucin need not be ascribed to a mesenchymal origin but is secreted by the epithelial cells in an exaggeration of a function which is found in the cells of normal glands. Thus the mucin does not actually represent stroma but is actually part of the parenchyma.

The further transformation of this mucinous substance, by which it loses both the fibrillar structure and staining properties, are ascribed to chemical changes probably caused by the insufficient blood supply.

The greater or lesser development of connective tissue, especially at the periphery of the tumors, is alleged to the stimulation produced by the neoplastic tissue on the normal stroma of the gland. In this regard it must be stated that the capsule is not always as complete as it appears macroscopically, but is frequently infiltrated by the tumor tissue or may present hiati where the

tumor tissue is in direct contact with the normal tissue of the surrounding gland tissue.

Are mixed tumors malignant? McFarland gives five criteria which he states must be fulfilled in order to determine a tumor's malignancy:

1. Metastases. These have been reported, both in the regional lymph nodes and in the distant form, but are extremely rare. When found, they are described as having a more cellular appearance than the original tumor. New reported eight cases in his series of mixed tumors of the pharynx.

2. Recurrence. The evidence is a particular tendency of these tumors to recur, sometimes after many years, even when they have been removed without apparent damage to the capsule. This tendency of recurrence seems to be one of the salient characters of mixed tumor. It has been ascribed to incomplete removal, to the possibility that the tumor extended through and beyond the capsule, and to the probability that these neoplasms originate from many small centers which melt together, some of which may remain outside the main tumor and be left after the operation to continue the same slow growth the original tumor had.

3. Infiltration. Mixed tumors very rarely, if ever, infiltrate the surrounding tissues.

4. Local destruction and interference with function. The main difficulty caused by mixed tumors is due to their bulk and weight and is not marked until late in their course. They do not break down or ulcerate unless injured or secondarily infected. Pain occurs occasionally due to pressure on or invasion of some branch of the trifacial nerve, usually the middle or lower division and paralysis of some branch of the seventh nerve. According to some authors, these two complications are found only in more malignant tumors which invade the sheath of the nerves. Interference with mastication and obstruction of the external auditory canal may occur in the very large tumors during the last stages of the disease.

5. Toxic effects on the host. These are completely absent in mixed tumor.

The application of these points to mixed tumors leaves us uncertain.

A study of these five points finds us in doubt as to the question of malignancy. I believe, as the majority of authors, that we are dealing with a definitely malignant but usually extremely low grade type of carcinoma. Whether all malignant tumors found in the salivary glands belong originally to this group, some of them having inherently more active and vicious qualities, or whether entirely different specific malignant entities, such as the cylindromatous carcinomas described by Quattlebaum, Dockerty and Mayo, and the ana-

plastic carcinomas described by Willis, are to be considered separately from them, is a question that I do not feel qualified to answer.

McFarland, who studied almost 400 cases and made a special effort to determine the prognosis of the tumors from the histologic appearance, came to the conclusion that the microscopic structure appeared to have little or no bearing on the degree of activity of the special case. The cases reported by Quattlebaum, Dockerty and Mayo, 21 in the parotid and 18 in the submaxillary, appeared to show a definite histologic structure and had a definitely higher rate of recurrence and metastasis and a markedly higher mortality, both treated and untreated. Those who favor the pathologic unity of both the more malignant and less active types argue that structures similar to the apparently true carcinomas, whether cylindromatous, squamous or spindle-cell, may be found spotted in the more characteristic mixed tumors.

The sudden increase of activity in a tumor previously torpid and the occasional return to a semi-quiescent state, which has puzzled observers, has been explained by some as being caused by the tumor breaking through the capsule; according to others, it is due to the degeneration of the central part of the tumor. The once popular theory that mixed tumors undergo a metaplasia which changes them from benign or relatively benign tumors into virulent carcinomas no longer finds much favor.

There has been and still is considerable difference of opinion as to what the treatment of this condition should be. Some having regard to the difficulty of removal and the frequency of recurrence are inclined to oppose surgical excision. McFarland favors waiting until the tumor has reached the size of a lemon at which time he feels the chance of multicentric growths being consolidated is greater and the danger of recurrence less. Biopsies are contraindicated as they invariably result in the spreading of the tumor, making subsequent removal more difficult. Since the tumor should be removed in toto, whatever the microscopic findings, they have no particular value. Where surgical removal is decided upon, many advocate the removal not only of the encapsulated tumor but also of a portion of the surrounding gland while others advocate the removal of the entire gland. This is comparatively easy in the case of the submaxillary and submental gland, but a surgical problem of considerable difficulty in the case of the parotid gland, unless one has no qualms about sacrificing the facial nerve.

The facial nerve enters the region of the gland after it emerges from the stylomastoid foramen, just below the tragus. It usually does not pene-

trate the gland tissue itself but is sandwiched between the external and internal lobe and then divides, forming the so-called "pes anserinus" or "duck's foot," into its major branches, and runs on the surface of the masseter muscle until it emerges from under the anterior margin of the gland. Running deeply behind the posterior margin of the gland are the temporal artery and vein. Injury to either or to one of their branches will produce bleeding which will further complicate the difficult task of avoiding the facial nerve.

Sistrunk's method of locating the nerve was to find the lower or mandibular branch following it back to where it joined the other branches. Trueblood advocates exposing the orbicular and frontal branches just above the antero-superior margin of the gland where they run over the zygomatic process. The third method consists in finding the main trunk of the nerve before it enters the gland, but this is the most difficult because of the deep position of the nerve and the presence of the previously mentioned blood vessels. None of the methods is easy as the tissues do not fall open in layers as they so obligingly seem to do in textbooks and illustrations. The gland is enclosed by a thick capsule and firmly adherent to the surrounding tissues.

An incision in the skin is usually made immediately in front of the ear extending from the superior attachment of the helix to and along the anterior margin of the sternocleidomastoid; another incision may be made following the posterior margin of the ear and joining the former in the shape of a Y. If this does not give sufficient exposure transverse incision may be added.

In the case of the submaxillary gland the only structure of any importance to be avoided is the hypoglossal nerve, which is large, easy to expose and lies mesial to the gland.

The sublingual gland offers no special difficulty. The two complications to be expected in operating on the parotid gland are temporary or permanent paralysis of one or more branches of the facial and salivary fistula, if any fairly large salivary duct is severed.

Paralysis may be temporary as a result of the stretching or compression of nerve branches. Unless it is definitely known to be cut, several months should be allowed to elapse before considering any attempt at improving the appearance of the face. However, if the lower lid is paralyzed, the eye must be carefully watched for secondary trauma and infection. If the nerve is permanently paralyzed, the angle of the mouth and eye may be drawn up by means of appropriate insertion of fascia lata strips. It also may become

necessary to perform a tarsorrhaphy or shorten the lower lid to correct the paralytic ectropion.

The parotid fistulas can be controlled by invaginating the fistula into the oral cavity or by inserting a wire suture through the fistulous tract and the inner surface of the mouth producing an internal fistula. In one of my cases I was able to heal the fistula by suppressing the function of the gland temporarily by means of irradiation.

Irradiation has been advocated both alone and in combination with surgery. Except for the less differentiated types of growth, mixed tumors appear to be highly resistant to irradiation. There is also the danger of softening the connective tissues which may lead to more uncontrolled growth of the neoplasm.

Recently Mohs has advocated destroying mixed tumors by chemotherapy. He applies a paste of zinc chloride which produces a thick eschar which is removed 24 hours later, and the process is repeated until the tumor is entirely destroyed. He states that the main advantage of this method is the possibility of maintaining constant microscopic control over the procedure.

The statistics as to recurrence of tumors vary tremendously with the different authors. The average seems to be 35 per cent. Ahlbom, who combined preoperative surface irradiation with excision and postoperative interstitial radium implantation, reported only six per cent. Depending on how McFarland classified his cases, 120 cases out of 380 recurred five years after surgery with a high of 66 per cent and a low of 25 per cent.

As one may gather from the preceding, there is still, in spite of abundant research and statistical work by prominent and able men a state of confusion regarding the neoplasms involving the salivary glands, as to their classification, clinical picture and treatment.

The opinion we can arrive at, I believe, is that we are dealing with epithelial tumors which are essentially malignant but may be relatively benign, especially in regard to their slow growth and rare metastasis. There is no satisfactory way of determining the actual nature of the neoplasms until they are removed and examined under the microscope. The more benign ones have an extremely long history, and while they may recur are rarely fatal. The more malignant ones have a high mortality regardless of the method of treatment.

The most successful method of treatment appears to be a combination of surgery and irradiation.

There are still surgeons who, having regard to the innegligible danger of damaging the facial nerve and to the comparative innocuousness of many of these tumors and confronted with the

high mortality in spite of treatment of the more malignant ones, are inclined to delay intervention.

Discussion

Edward T. Carey, M.D., Clinton: I would like to thank Dr. Kirsh for presenting this interesting paper to us. In addition to his personal experiences, he has given us an extensive review of the literature on this most difficult subject.

Much has been written regarding the etiology and the pathology of the so-called "mixed tumors." The difficulties carry over into the diagnosis and the treatment. Although these tumors are most commonly found in or associated with the salivary glands, they may also appear in the palate, cheek, lips, tongue, pharynx, sinuses and the nose.

There is a problem of preliminary biopsy, too. One may hesitate to open the capsule for fear of spreading tumor cells. Furthermore, a small specimen may not reveal the true nature of the lesion, which may have benign and malignant characteristics, histologically, in different parts.

The five year limit is not always the outside limit. They may recur sooner or much later. The recurrence may not be more malignant in character than the original tumor.

Since they are as a rule radio resistant, the correct diagnosis guards against unnecessary radiation. After obtaining consultation with the pathologist and the radiologist, the clinician must make the ultimate decision as to the best method of procedure in any given tumor.

MULTIPLE MYELOMA AND PLASMA CELL LEUKEMIA: CASE REPORT

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The distinction between multiple myeloma and plasma cell leukemia, and the attempt to separate these conditions into two distinct clinical entities has led to much discussion in medical literature. It is well known that plasma cells may appear in the peripheral blood stream of patients having multiple myeloma but these cells are not uniformly present. The question has been raised as to when such cases should be considered as multiple myeloma in which plasma cells have appeared in the peripheral blood stream, and when they should be classified as plasma cell leukemia. The clinical and laboratory features of multiple myeloma are extremely variable and it is impossible to select a single manifestation whose presence or absence will determine the diagnosis.^{1, 2, 3, 4} It is recognized that not all patients with multiple myeloma present the typical sharply outlined osteolytic bone lesions but may present a diffuse generalized osteoporosis although marrow puncture reveals the same myeloma or plasma cells

in the bone marrow in both types. In such cases plasma cells may be found in the peripheral blood, and in the absence of "punched-out" bone lesions have frequently been called plasma cell leukemia even though they differ from ordinary multiple myeloma only in their rotent-genologic features.

Bence Jones proteinuria is likewise a variable feature and is encountered in only about 50 per cent of patients with multiple myeloma, and even in those in whom it is encountered it may not be a constant finding.³ Hyperproteinuria and hyperglobulinemia are common features but are not always present. Extraskelatal plasma cell tumors^{5, 6} have been reported in patients having multiple myeloma, and diffuse visceral infiltration by myeloma cells has been reported in patients who did not show plasma cells in the peripheral blood.⁷ The visceral lesions may take the form of nodular metastatic lesions or of a diffuse infiltration of the type commonly associated with leukemia. The recent use of marrow aspiration as a diagnostic procedure has demonstrated the widespread infiltration of the marrow by myeloma cells even though the roentgenograms show only localized lesions. Even solitary roentgenologic lesions have been found associated with widespread marrow involvement.²

The following case is one of multiple myeloma with most of the characteristic diagnostic features but without evidence of leukemia in the peripheral blood although the pathologic features suggested leukemia.

Case Report

A 73 year old white woman was admitted to the University Hospitals on April 6, 1948, complaining of weakness and easy fatigability. Her illness began in November 1946, at which time she had an acute upper respiratory infection and was found to be anemic. She was treated with iron and liver preparations without benefit and was subsequently given a blood transfusion. Several weeks before admission to this Hospital, she had an hemoptysis with a dull aching pain in the right anterior chest wall which was aggravated by local pressure. The patient had noted progressive fatigability, weight loss and anorexia prior to entering the hospital.

Examination revealed a marked pallor and evidence of much loss of weight. The temperature, pulse and respirations were normal. The fundi revealed arteriosclerotic changes in the vessels and old retinal exudates. There were signs of consolidation at the base of the right lung and coarse rales throughout both lung fields. The spleen and liver were easily palpable, but there was no significant lymphadenopathy. The neurological examination was normal. An x-ray of the

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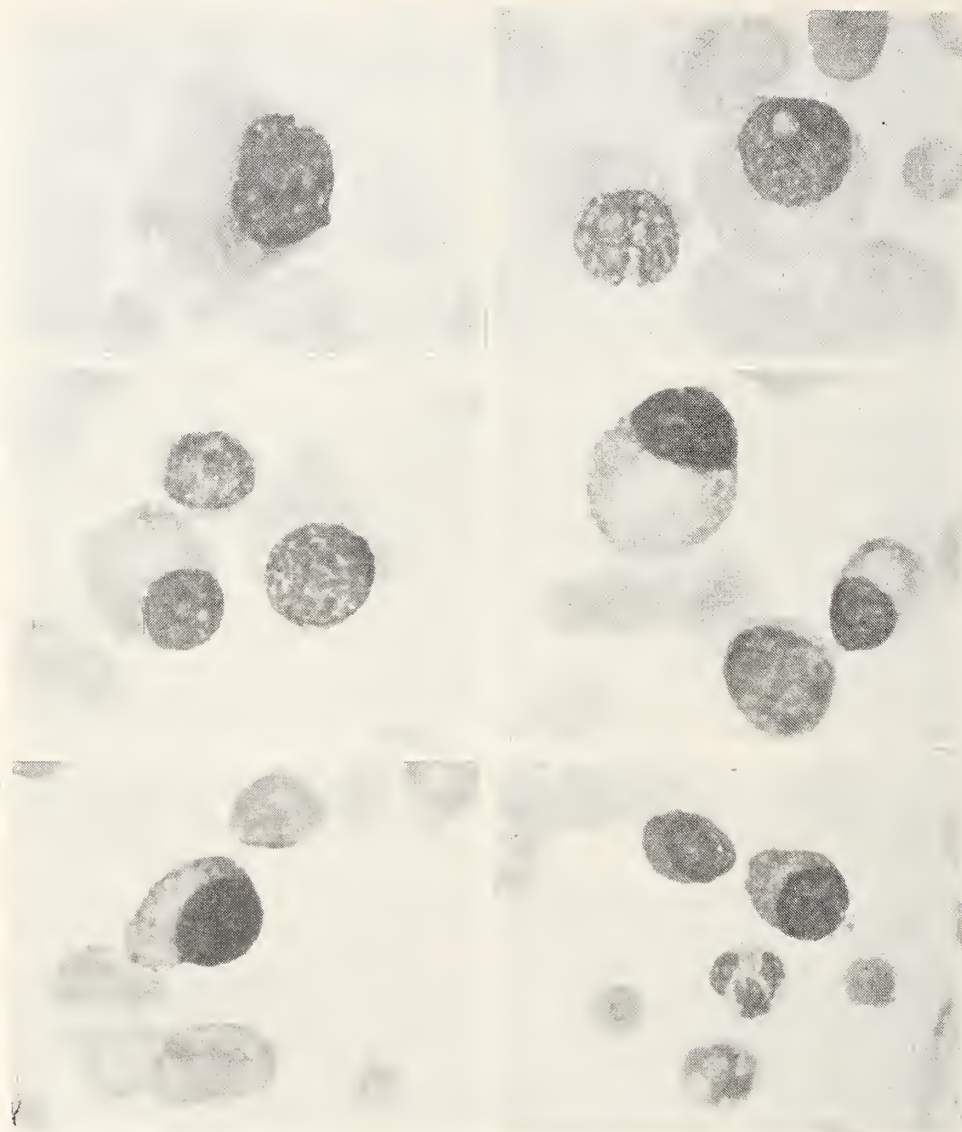


Plate 1. Examples of myeloma cells as found on sternal aspiration. Many were immature forms such as are encountered in those cases which pursue a rapid course.

chest revealed the heart to be slightly enlarged, and the lungs showed a diffuse infiltration, most pronounced at the right base. The blood pressure was 118/70.

The laboratory data were as follows:

Blood: 5.6 gms. of hemoglobin per 100 cc.; 2,040,000 erythrocytes and 2,100 leukocytes per cu.mm.; the differential count showed 63 per cent neutrophils, 1 per cent eosinophils, 23 per cent lymphocytes and 9 per cent monocytes; no plasma cells were detected.

Urine: Albuminuria 2+ with many granular casts; Bence Jones proteinuria was present.

Serum proteins: Total 12 gm. per 100 cc. with 1.25 gm. of albumin and 10.75 gm. of globulin.

Blood urea nitrogen: -32 mg.; creatinine: 1.8 mg.

Sternal aspiration revealed an abundance of myeloma cells of the plasma cell type in the aspirated marrow (Plate 1).

The patient's course was progressively downward in spite of blood transfusions and supportive treatment. She developed severe epistaxis and died on her 14th hospital day.

Roentgenograms taken postmortem showed multiple small sharply circumscribed areas of bone destruction in the skull. The rib showed a coarse trabecular appearance without other evidences of destruction.

The conspicuous necropsy findings were those

of multiple myeloma with diffuse myelomatosis involving the liver, spleen, lymph nodes and bone marrow. The myeloma cells were of the plasma

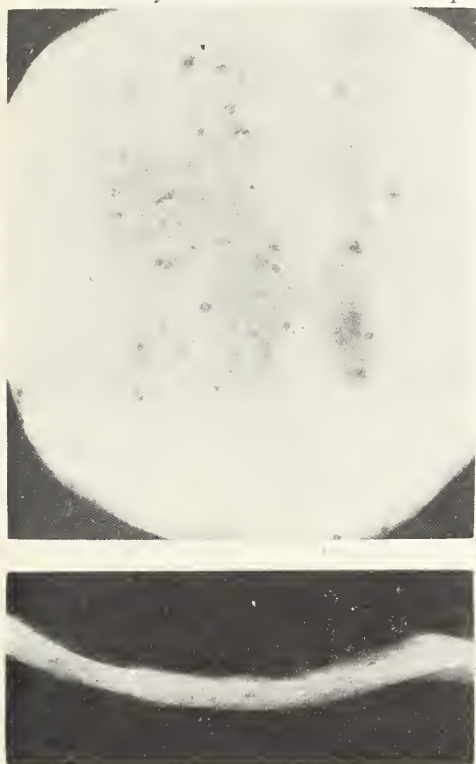


Plate 2. X-rays of the skull plate and rib showing small circumscribed lesions in the former and a coarse trabecular appearance of the latter without evidence of areas of destruction. Both are reproductions of films taken postmortem.

cell type and the diffuse involvement of the liver, spleen, lymph nodes and bone marrow from the femur resembled that seen in a leukemic infiltration. The renal tubules contained hyaline casts and in many areas there was degeneration of the tubular epithelium. The spleen was enlarged. The pulp was congested and the malpighian bodies were disrupted by an infiltration of myeloma-like cells. The liver was also enlarged and microscopically revealed a diffuse infiltration with myeloma cells. The abdominal and mediastinal lymph nodes were enlarged and microscopically there were many myeloma cells present. The marrow from the femur was dark, reddish-gray, hyperplastic and on microscopic examination all the bone marrow was diffusely infiltrated with plasma cells. The kidneys and pancreas did not show any infiltration by myeloma cells. In the lungs there was an acute necrotizing pneumonia without evidence of myelomatous infiltration. The necropsy findings substantiated the clinical diagnosis of multiple myeloma and revealed an infiltration of myeloma cells which, in those organs where it was present, resembled the type of infiltration seen in leukemia.

Discussion

This patient presented the characteristic clinical, laboratory and roentgenological features of multiple myeloma with myeloma cells present in the marrow obtained by sternal aspiration. The diagnosis was confirmed by necropsy examination but in addition to the usual findings there was a diffuse leukemia-like infiltration of the liver, spleen and lymph nodes. Other organs were not similarly infiltrated, and the peripheral blood did not reveal plasma cells. Geschickter and Copeland in 1928 reviewed 425 cases of multiple myeloma. In the majority of these the lesions were confined chiefly to the bone but not infrequently there was involvement of the liver, spleen and lymph nodes. Others have found transitional stages between multiple myeloma and plasma cell leukemia^{8, 9, 10, 11, 12} which show the similarity between the conditions and point out that the leukemic state is probably only a generalized variant of multiple myeloma. Some believe that multiple myeloma represents a leukocytic malignancy with generalized marrow involvement and in that sense always represents a form of leukemia which may present either leukemic or aleukemic phases in the peripheral blood stream. Rubinstein⁷ discusses in detail the differential points but concludes that the distinguishing features are not fundamental. Bayrd and Heck² believe that multiple myeloma ranges from the solitary form to the leukemic stage and do not feel that any useful purpose is served by creating the impression that plasma cell leukemia is a separate entity. The present case, as have other previously reported cases, shows a transitional stage between these two conditions and emphasizes the gradual gradation of multiple myeloma into the type of case diagnosed as plasma cell leukemia. This illustrates the close relationship between multiple myeloma and plasma cell leukemia and emphasizes the futility of separating these conditions into two distinct clinical entities.

Summary

A case of multiple myeloma is reported which showed on necropsy examination an infiltrative type of lesion usually associated with leukemia. In view of this and other similar transitional cases, it seems useless to attempt to separate them into distinct clinical entities. Multiple myeloma may be considered as a disease which ranges from a localized to a diffuse leukemia-like infiltrative disease.

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CONFERENCE**
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Summary of Clinical Record

This 74 year old white female was accidentally burned 19 days before admission to the University Hospital. She was taken to a local hospital where she received plasma intravenously, and pressure dressings were applied to the burned areas. She also received 1,500 units of tetanus antitoxin and was started on procaine penicillin 300,000 units twice daily. She was maintained on a formula rich in protein and carbohydrate by means of an indwelling gastric tube. Because she was a diabetic she received 25 units of insulin daily. The dressings remained in place for some ten days, after which they were removed and fine mesh gauze was placed over the areas covered by large bulky dressings which were soaked with saline. She developed shortness of breath and rales in both lungs 14 days after the burn was incurred. She was given nasal oxygen and mercurhydrin, 2 cc. intramuscularly, daily. Sodium was omitted from the formula insofar as possible. During the entire period she was in the local hospital she was confused and ran a constant daily elevation of temperature. She also became incontinent. She was given generous amounts of vitamin B complex and vitamin C.

The patient had never been hospitalized previously. The diabetes which had been present for many years had been controlled by means of a careful diet.

At the time of admission to the University Hospitals, the patient was completely disoriented and was unable to give a history. Examination revealed an obese white female, who appeared dehydrated. Approximately 20 to 25 per cent of

her body surface was involved by a third degree burn located over the thorax, anteriorly and posteriorly, involving the axilla and over the left lumbar region to the level of the sacrum. The burned areas were mainly covered by an eschar, through which purulent material drained at numerous sites. She was incontinent. She had a mild conjunctivitis with crusts over the lids. Her lungs appeared clear to both percussion and auscultation, although examination was quite difficult. The left heart border was approximately 11 cm. to the left of the midsternal line. The heart rate was 100/min., with many ectopic beats. The blood pressure was 170/90. A heart murmur, which did not radiate, was audible in the aortic area. No masses or organs were palpable within the abdomen. The extremities showed slight edema. The hemoglobin was 10.0 grams per 100 ml.; red blood cell count 4,250,000 per cu. mm. and white blood cell count 17,700 per cu. mm. The hematocrit value was 33 per cent. The urine was acid in reaction, had a specific gravity of 1.015 and showed 1+ albumin, a trace of sugar and numerous white blood cells and red cells on microscopic examination. There was no acetone present in the urine. The CO₂ combining power of the blood was 96 volumes per cent. The blood urea nitrogen was 27 mg. per 100 cc. and the creatinine 1.2; total plasma proteins 6.51 gm. per 100 ml., albumin 2.14 gm. and globulin 4.37 gm. Since the patient refused all food and fluid by mouth, she was started on intravenous fluids, and a tube was passed into the stomach for formula feedings. The cultures of the burned areas grew hemolytic staphylococcus aureus, which was moderately susceptible to aureomycin, chloramphenicol and streptomycin, but penicillin resistant; aerobacter aerogenes which was moderately sensitive to streptomycin, pseudomonas aeruginosae, which was slightly sensitive to streptomycin and escherichia coli, as well as a species of proteus.

The patient was given 500 cc. of blood and some saline intravenously. Penicillin was given by daily intramuscular injection. She remained markedly disoriented and the following day became semicomatose. Then the two days following admission she received 3,400 cc. of saline. The urine then showed roughly 2.2 gm. of sodium chloride per litre in 24 hours and 4+ sugar. The hemoglobin was 9.0 grams per 100 ml., the red blood cell count 3,140,000 per cu. mm. and white cell count 11,550. The CO₂ combining power was 123 volumes per cent. Blood plasma chlorides were 689 mg. per 100 cc.

She was given 15 gm. of ammonium chloride intravenously. Following this the CO₂ combining power was 77 volumes per cent. An electro-



Photograph of patient when she entered the University hospital.

cardiogram showed a sinus tachycardia with a normal QT interval. The configuration of the T wave was normal. Another blood transfusion of 500 cc. was given on the third day after admission and was repeated on the fourth day. The blood sugar remained between 270 and 320 mg. per 100 ml. and small doses of insulin were given at regular intervals to cover the formula feedings. The urinary output varied from 1,000 to 2,900 cc. daily with a specific gravity ranging from 1.015 to 1.030. Acetone was never present in the urine. Following admission, the patient's temperature maintained an almost steady uphill course.

Because of the pitting edema and moist rales in the lungs, she was digitalized. On the sixth hospital day the CO₂ combining power was 84 volumes per cent. The pH of the blood was found to be 7.61. The urine ammonia was 0.3 grams excreted in 24 hours. The CO₂ combining power remained at approximately 80 to 85 volumes per cent, and the hemoglobin and red blood cell count remained stationary. On her eighth hospital day 3.0 grams of potassium chloride was started in the formula. However, the patient continued her downhill course and expired on that same day.

Dr. Sidney E. Ziffren, (Surgery): From the protocol, you are aware that the patient was 74 years of age, and when an elderly individual incurs a severe burn it is harder to handle than it is in a younger person because other problems are present. They are not only more liable to go into shock than do others, but when they do go into

shock, if they have an associated cardiac difficulty as most do, the fluid and plasma regulation is difficult. Overloading the circulation with too much salt and other electrolytes may easily occur.

You will note this individual had excellent care on the outside. Her shock was well taken care of and her wounds were treated in an accepted fashion. They did not make a great deal of fuss about the surface wounds and lose sight of the main problem. They covered them with some form of pressure dressing and treated the patient's shock, infection, anemia and malnutrition. Because she would not eat, they passed a tube into her stomach, fed her a high caloric diet and gave her penicillin; she was also given tetanus antitoxin. There certainly was nothing wrong with the treatment she received before she entered this hospital. You will also note that she had an episode of cardiac difficulty while in the local hospital and this was treated by oxygen, a mercurial diuretic and restriction of dietary sodium.

When she came into this hospital, she was quite confused and disoriented. We could not get a history from her. The first thing we found out about the patient was that she was in severe alkalosis. She had a CO₂ combining power of 96 volumes per cent, and her blood proteins were disturbed. She had an albumin of 2.14 and a globulin of 4.37. She would not take any food by mouth while she was here with us, so a tube was passed into her stomach and feedings begun. She had many bacteria in her burns which is the usual thing in a large burn that has sloughing

tissue on it, and we did not pay any particular attention to that at that moment.

She was given 3,400 cc. of saline in the first two days in the hospital in an effort to combat her alkalosis, and following that it was found that her CO₂ combining power had risen to 123 volumes per cent instead of falling. In an ordinary alkalosis we could assume that the patient would respond taking 3,400 cc. of saline but she did not respond. Therefore, ammonium chloride was given intravenously. This brought the CO₂ combining power down to 77 volumes per cent, and, this time a blood potassium level was 19.9 mgm. per cent, which is accepted as a normal figure. She was given three blood transfusions during her first few days at the hospital, and small doses of insulin helped to control her diabetic state. The urine was concentrated in an excellent fashion and at no time did she display any acetone in the urine.

However, she did not do very well. She remained alkalotic; pitting edema and rales in her lungs appeared, so she was digitalized and on the last day potassium chloride was placed in her formula. We did not do much to the surface burns themselves. Sterile wet dressings were applied. She had a pH of the blood done by Dr. Genevieve Stearns of the Pediatrics Laboratory which was reported as 7.61, definitely alkalotic.

Student: Why was she given penicillin when the bacteria were shown to be penicillin resistant?

Dr. Ziffren: I do not believe it was in an effort to combat the bacteria over the burned area itself, but it was to help prevent the development of a pneumonic process in the lungs. Our diagnosis of this individual as to the cause of death was a combination of two factors; she had some sepsis, and we thought that she had an electrolytic upset. The hint, of course, is given in the fact that we gave her some potassium at the end. We thought she might have hypokalemia.

Necropsy Diagnosis

There were deep burns of the skin over the left side and posterior aspect of the trunk. These were covered by a thick black eschar beneath which there was a considerable quantity of thick, foul-smelling, green-colored pus. The right lung was largely consolidated, especially in the dependent (posterior) portions. The bronchioles in this part of the lung were filled with purulent exudate and widely ulcerated.

The cardiovascular system showed the changes of moderately advanced arteriosclerosis. The heart weighed 100 grams more than the usually normal figure. A bland infarct of considerable duration was present in the spleen.

Several incidental findings were of interest. A small chromophobic adenoma was found in the

anterior lobe of the pituitary gland. There was a large cortical adenoma of the adrenal and a small fetal adenoma of the thyroid. The gall bladder contained a few stones and there was a small hyalinized leiomyoma of the uterus.

Necropsy diagnosis:

Burns, severe, skin of left side of trunk and back.

Necrotizing pneumonia, right lung.

Hypertrophy of the myocardium.

Arteriosclerosis, generalized.

Infarct of spleen.

Chromophobe adenoma, anterior lobe of pituitary.

Cortical adenoma of left adrenal.

Fetal adenoma of thyroid.

Chronic cholecystitis and cholecystolithiasis.

Student: What was the blood urea nitrogen?

Dr. Eugene J. Boyd, (Pathology): The blood urea nitrogen at the time of death was 81, the creatinine 2.8.

Student: What was the histological picture of the kidneys?

Dr. Boyd: The kidneys were normal in size with no evidence of tubular degeneration, no evidence of casts as we like to find in these cases called lower nephron nephrosis. There were a few cordical scars of a superficial nature which are quite consistent with the degree of arteriosclerosis she had elsewhere. So far as I am concerned, the kidneys did not appear to have played any particular part in her death. They may have. Our methods of examination of the kidneys were gross, but so far as I could determine, there were no lesions of any significance, and the fact that they were of normal size indicates that, I think.

Dr. Robert T. Tidrick, (Surgery): I do not have anything that would throw any light on this. It seems there are a lot of questions here that are not answered. I cannot understand the discrepancy between the carbon dioxide combining power and this astounding value for her chlorides. Now, I am not doubting the accuracy of those, but I certainly am doubting my ability to explain the discrepancy that exists. She had repeated carbon dioxide combining powers run, and most of those were in the range indicating mild to moderate alkalosis. Certain other features in her clinical course would suggest that she was on the border of outright clinical alkalosis. Then I would like to ask what rational basis there was for the administration of potassium chloride. Dr. Ziffren, when was this potassium determination done?

Dr. Ziffren: About three days after admission.

Dr. Tidrick: The potassium chloride was administered when?

Dr. Ziffren: The last day of her life.

Dr. Tidrick: I am sure we have been overlooking cases of clinical hypopotassemia and that some of the symptoms that go with so-called full-blown clinical alkalosis are actually due to potassium deficiency. The fact remains that she received it too late to cause any alteration in her course. Dr. Sheets, can you explain some of these or give answers to some of these questions?

Dr. Raymond F. Sheets, (Internal medicine): Briefly, going back in this patient's protocol, we find that she was burned 19 days before she was admitted to this hospital. That, I think, means the rapid fluctuations, which occur in fluid and electrolyte balance after burns, were more or less stabilized by the time she was admitted to this hospital. We can eliminate those from the discussion, although she was probably, at the time of admission, having some of the effects of the alterations which had already taken place.

At the time of admission she appeared dehydrated. When one has a problem of fluid and electrolyte balance, it is always of help to know the state of function of the kidneys. A urinalysis showed that she had a specific gravity of 1.015, 1+ albumin, a trace of sugar and numerous white cells and red cells. The determination of the specific gravity is of no help because albumin and sugar will elevate the specific gravity. Further on in the protocol, it states she had specific gravities ranging from 1.015 to 1.030 and that there was a 4+ glucosuria. The glucosuria eliminates those estimations from being of any value in deciding this patient's kidney function. The blood urea nitrogen was 27 mg. per 100 ml. blood and the creatinine was 1.2, which was practically normal. One might say these indicate normal kidney function, but she was having a urinary output ranging from 1 to 3 liters per day. Consequently, if she had poorly functioning kidneys with an inability to concentrate and an output of 1 to 3 liters per day, her kidneys could still clear all the solids that ordinarily normal kidneys would be required to clear. So I do not know whether she had good renal function or not.

Summing up from the protocol as well as we can, we find that she had 1,500 ml. of blood and 3,400 ml. of 0.9 per cent saline during the seven days she was observed in this hospital. Do you know how much water this 15 grams of ammonium chloride was in? Does anyone know how much water it would take to give 15 grams of ammonium chloride intravenously?

Dr. Ziffren: Around 1,000 ml.

Dr. Sheets: So, if 1,000 ml. were required for the ammonium chloride, she then received intravenously 5,900 ml. of fluid, including the blood

plus an unknown quantity of formula. During the seven days in the hospital, she had a minimum urinary output of 7,000 ml. It was probably higher than that from the way the protocol was written. From sweat and expired air, she lost a minimum of 7,000 ml. and probably more since she had a fever. So then she took in about 6,000 and lost 14,000 ml. of water. That is as close as we can come from the protocol. In the saline she received 30 gr. of salt. During the seven days she excreted an average of 2 litres of urine a day which contained 2 gm. of chloride per litre or a total of 28 grams of salt was excreted in the urine. In the sweat she lost about 2.5 grams. This adds up to about 30 grams and does not take into consideration any salt that was lost from the burn. During the seven days she was in fairly good salt balance.

If these balance calculations are correct, she had water depletion, which would account for the observed concentration of serum chloride and explain the normal potassium level. Since alterations in the electrocardiogram more frequently parallel concentration of potassium in the serum than the concentration in the cells, it would also account for the normal electrocardiogram which was obtained. If these calculations were incorrect and she did receive adequate salt and water during this period, then she probably had poor kidneys or else she had a "refractory" alkalosis. We do not know the functional capacity of the kidneys, but assuming Dr. Ziffren's diagnosis is correct that she had refractory alkalosis, we shall consider how that could occur. Ordinarily the cause of a refractory alkalosis is potassium depletion. The evidence is fair that potassium is a threshold substance, and that the kidney has a poor mechanism for conserving it. The simplest cause of potassium depletion is inadequate intake, and I suspect that would be the best explanation in this instance. Of course, if she were receiving the usual formula given in this hospital by gastric tube consisting of 3,300 calories in a volume about 2 litres she would have been getting 5 grams of ionic potassium. This would be adequate potassium, but we cannot determine from the protocol if she actually received the formula or if it were absorbed. Therefore, we postulate she had alkalosis because of potassium depletion.

Another cause of potassium depletion is diabetic acidosis. In this instance, the primary defect is salt and water depletion and, as the plasma volume and the extracellular fluid volume contract, there is a loss of potassium in the urine and depletion of potassium in the cells. During this period the serum potassium will be normal, but as soon as the acidosis is treated with glucose and

saline there is expansion of the plasma volume and the extracellular fluid space and potassium moves into the cells. The concentration of potassium in the serum will decrease, and there may be clinical evidence of hypokalemia. Gastric suction is another cause which works in approximately the same way as the salt and water depletion of diabetic acidosis. In addition, in gastric contents, there are 20 to 60 mg. of potassium per 100 ml. which will be lost in addition to that lost in the urine. Diarrhea is a cause of potassium deficiency that is particularly significant in children. If one administers desoxycorticosterone acetate to a patient, it will cause salt and water retention and will promote potassium excretion. If this toxic state is continued long enough, lesions will be produced in the myocardium. This patient would not be expected to have myocardial lesions because the duration was too short. Hyperadrenalism of Cushing's type is another cause of severe alkalosis. There are cases reported in the literature in which patients with Cushing's disease had alkalosis with a CO_2 combining power of 100 ml. in whom the alkalosis was refractory to all forms of treatment except the addition of potassium to the diet or removal of the tumor. Recently ACTH has been found occasionally to produce alkalosis in the same manner as that in hyperadrenalism.

Treatment of potassium deficiency is the administration of potassium. Elkington suggests that an adequate adult dose is somewhere between 1,170 to 5,850 mg. of ionic potassium daily depending on the degree of depletion. This may be given intravenously or orally, but if it is given intravenously, it should be given slowly.

These statements have been general, because I think from this protocol one has to be non-specific. I do not think the data are here in such detail that one can be otherwise. A problem in fluid and electrolyte balance is simply one in weights and measures. As such it can be put down on paper in black and white so that it can be understood and can be followed. I believe that is the only means by which one can adequately care for a patient who is apt to develop water, salt and potassium deficiencies. I think the only way to do it is to record the data on a chart. The chart should include the date, the daily body weight, intake, output and the concentrations of serum electrolytes.

Dr. Ziffren: I am not trying to defend the individuals who handled this patient. I think they were up against a very difficult and hazardous situation trying to manage her. Now from what I can gather from Dr. Sheets' remarks, if an individual has edema and a lot of rales in the lungs, it still does not make any difference how

much fluid you administer to them. Am I right?

Dr. Sheets: One certainly should not overload a person's circulation, but if the status of the fluid and electrolyte balance is such that it becomes necessary to permit some edema in order to correct the water and electrolyte balance, it should be remembered that edema in itself is not particularly harmful. The patient should not be given fluid intravenously at a rate rapid enough to cause left ventricular failure. That is an entirely different situation and should be avoided, but if the patient just has some excess fluid in his interstitial tissues it is not necessarily detrimental. Patients with cardiac edema survive such a situation for days.

Dr. Robert B. Gibson (Biochemistry): Dr. Sheets, the protocol says the patient has an acid urine.

Dr. Sheets: I do not think one can determine the pH of the blood by determining the pH of the urine. It is extremely important here that the pH of the blood was determined, because without that determination of pH 7.6, it would be impossible to know whether the patient was in respiratory acidosis or in alkalosis.

Dr. Gibson: You can still have an acid urine with a patient in alkalosis, which we do get occasionally.

Dr. Sheets: I have no explanation. It does occur, though.

Student: If the normal chloride and potassium were on the basis of dehydration, she must have had a severe anemia because her hematocrit, even though she was dehydrated, was only 33.

Dr. Ziffren: Well, of course, that is a matter of opinion. I personally find it difficult to imagine a person being dehydrated putting out 1,000 to 2,900 cc. daily in urine. Does not the kidney take first call on all fluid that is given? For instance, if you give fluid to a patient, who is dehydrated, do the kidneys have the first call before the remainder of body cells get any share of the fluid?

Dr. Sheets: After the obligatory excretion which is only 500 ml. a day, if they are normal. I think I am probably being misconstrued. I do not think it is possible to have a rational explanation for what went on in this patient because the data are so incomplete. I do not say she was dehydrated. All I can say is that the information in the protocol indicates she was.

Dr. William W. Kridelbaugh, (Surgery): I may be wrong on this, and I would like to be corrected if so, but it seems to me that we have been talking around an essential point here; namely, what was the blood volume of this patient? As somebody pointed out about the hematocrit and as Dr. Sheets inferred, it does not seem

possible to draw conclusions from the electrolyte concentration of the blood, the plasma protein concentration of the blood and the hematocrit concentration of the blood, unless someone first determines what the total blood volume is, both plasma volume and red cell volume.

Secondly, in regard to potassium and its determination in the blood, I think it is essential that one also determines potassium output of urine. One may have a perfectly normal serum concentration of potassium because potassium is withdrawn from the cell with the administration of sodium chloride, and yet the urinary concentration of potassium may be tremendous because potassium is being excreted as you administer sodium and you tend toward concentration of base in the blood. As sodium chloride is administered, potassium will go out in the urine, and it will be drawn out of a cell so that the serum concentration is normal all the time, yet the urinary excretion of potassium is far above normal. As Dr. Sheets said, I think there is inadequate information. I think one very essential determination on these people would be a blood volume.

Dr. Ziffren: Would someone answer Dr. Tidrick's questions about the discrepancy between the CO₂ and the serum chloride determination?

Dr. Steven M. Horvath, (Physiology): All I would say about that would be that probably one of the determinations could be in error. Since the problem of blood volume came up, we might mention that there are several other ways of determining blood volume besides the Evan Blue technic. That is, for instance, the carbon monoxide technic which can be utilized very nicely with relatively minor difficulties in operating procedures. Of course, certain radio active materials can be used beautifully, but that requires specialized technic which are not always easily available. The carbon monoxide technic is good. The Evans Blue, with certain precautions, can give good results. A great many studies have been done on patients having burns to determine their blood volume. The method used originally was the Evans Blue method. The first part of the Evans Blue curve is always the bad part of the curve, but they have been very valuable even though they may give somewhat incorrect values. The discrepancies you are liable to find in blood volume in these patients are going to be rather large, and it is easy enough to take these into account. What if you have an error of 10 or 20 per cent? Many of the clinical methods may have an error of +5 per cent. Another 5 per cent is not going to do a great deal in causing you to underestimate or overestimate the blood volume.

Dr. Ziffren: Are there any other questions or comments?

Dr. Sheets: This question of yours, Dr. Tidrick, I overlooked. I do not believe there is any discrepancy. The usual situation in refractory alkalosis is a high CO₂ and a high serum chloride. Normally the acid radicles total 155 meq./L. In this sort of alkalosis, the chlorides will be normal or high as in this instance, and the CO₂ combining power will be greatly increased. Assuming the organic constituents to be normal, this patient had a total of 171 meq. L. of cations in her serum.

In reference to the blood volume, I think it might be of some value here, but I should like to re-emphasize that the way to manage these patients is by following accurately their intake and output of water and electrolytes because one can keep them in balance by this means and one can keep these serious problems in fluid and electrolyte balance from developing.

HOBBY SHOW CO-CHAIRMEN

Co-chairmen of the Hobby Show to be held in connection with the Sioux City meeting next spring have been announced. They are Dr. James E. Reeder, Jr., 505 Sixth St., and Dr. John D. Lutton, 931 Badgerow Bldg., both of Sioux City.

Any physician having hobbies he would like to show is asked to write either chairman as soon as possible.

COMING MEDICAL MEETINGS

American Academy of Dermatology and Syphilology, Palmer House, Chicago, December 2-7.

American College of Chest Physicians, Hotel New Yorker, New York, November 13-18.

American College of Surgeons Sectional Meeting, Hotel Statler, St. Louis, January 22-23.

Radiological Society of North American, Palmer House, Chicago, December 10-15.

SPEAKERS BUREAU RADIO SCHEDULE

WSUI—Tuesdays at 11:45 a.m.

WOI—Thursdays at 11:15 a.m.

Oct. 31-

Nov. 2

Pneumonia

Edward O. Loxterkamp, M.D.,

Rolfe

Nov. 7-9 Christmas Seals to Fight Tuberculosis

Ruth Turner, Des Moines

Nov. 14-16 Encephalitis

Robert C. Brown, M.D., Mason City

Nov. 21-23 Undulant Fever

George L. Wadsworth, M.D., Woodward

Nov. 28-30 Nephritis

John J. Gleeson, M.D., Vail

STATE DEPARTMENT OF HEALTH

Nate Liering

POLIOMYELITIS

National summary for the week ending October 7, 1950*

"New cases of acute poliomyelitis reported in the United States during the current week numbered 1,816, a nine per cent decrease from the 1,994 cases reported for the preceding week. This is the second consecutive week since May 20 that a decrease from the preceding week has been reported. The figure for this week is higher than the corresponding number (1,585) for 1949. The peak incidence of this disease to date occurred the week ended September 23, the latest week in any year during the past 20 years, with the exception of 1932.

The cumulative total (22,219) for the current "disease" year was below the corresponding total (33,795) for last year, the highest on record. The "disease" year for acute poliomyelitis begins with the twelfth week of the calendar year. The cumulative total for the calendar year was 23,351, compared with the total 34,716 for the corresponding period last year.

For the current week, eight of the total of nine geographic divisions decreased from the preceding week. These decreases ranged from 77 (517 to 440) cases reported in the Middle Atlantic States to seven (548 to 541) in the East North Central States. The increase in the East South Central States was 20 cases which included 12 (30 to 42) cases in Kentucky and six (6 to 12) in Alabama.

For the current week, the States reporting the largest numbers of cases were: New York (286), Ohio (157), Michigan (153), Illinois (125), Pennsylvania (106), and Iowa (89).

Alaska reported 16 cases compared with 11 last week. The cumulative total for the calendar year was 31. Hawaii reported one case for the week.

For the current week, emergency equipment shipped by the National Foundation for Infantile Paralysis included 33 respirators and 12 hot pack machines. Personnel recruited included six physical therapists, and 69 Red Cross nurses."

Regional Rates

As noted above, Iowa's attack rate is continuing to be high. Iowa, with an attack rate of 26.8

per 100,000 population (January through September 16) had reported higher case rates than any other state except Texas. For the same period neighboring states had had attack rates as follows:

State	Attack Rate	Cases (through Sept. 16)
Iowa	26.8	708
Nebraska	19.1	245
Kansas	13.9	270
Wisconsin	11.2	375
South Dakota	11.1	72
Illinois	10.9	925
Minnesota	9.2	275
Missouri	5.0	196
North Dakota	4.3	26

Iowa Summary 1949 and 1950

January 1 through October 8, 1949 and October 7, 1950:

Cases by Months 1950	Cases by Months 1949
January	12
February	13
March	5
April	8
May	11
June	21
July	167
August	218
September	483
October 7	89
Total	1027
January	9
February	2
March	1
April	7
May	2
June	16
July	170
August	409
September	267
October 8	93
Total	976

*25 of the September total 1950 cases were delayed cases not reported previously. These cases will be distributed through the proper months at the end of the current year.

To date cases have been reported from 94 of our 99 counties. Emmet, Guthrie, Lyon, Osceola and Winnebago counties have not reported cases. Those counties with 10 or more reported cases are as follows:

County	Number of Cases	County	Number of Cases
Black Hawk	25	Muscatine	14
Butler	15	Page	10
Cerro Gordo	11	Polk	77
Clinton	22	Pottawattamie	24
Decatur	15	Sac	12
Des Moines	24	Scott	23
Hancock	10	Story	47
Hardin	13	Tama	10
Henry	10	Van Buren	27
Iowa	11	Washington	17
Johnson	30	Wayne	16
Jones	14	Webster	10
Lee	21	Winnebago	35
Linn	133	Woodbury	17
Mitchell	12	Wright	10

Our total number of cases to date exceeds that of last year at the same time. Even our age range of cases has been extended from one month of age to 73 years last year to vary from three days of age to 89 years of age this year.

Winter's Influence on Stream Pollution Will Soon be Evident

The early frosts heralding winter weather also establish the time for winterizing sewage treat-

*Data from the National Office of Vital Statistics.

ment plants to be sure of uninterrupted service throughout the cold months. Ice coverage of the streams which prevents reaeration or "self purification" causes the zones of pollution to extend further downstream below the point of discharge and consequently may be more injurious to the stream, fish and aquatic life than the low summer flows with lower dissolved oxygen content. It is imperative therefore that all existing treatment units of each plant be operated during cold weather. Sand filters as well as other secondary treatment units must be kept in operation.

Last winter fish kills and heavy zones of pollution occurred due to the lack of preparatory winter maintenance or the decision by municipal officials to bypass sand filters or entire plants. Such practices are not to be condoned. Where facilities are overloaded the degree of treatment can usually be improved by additional work and time spent at the plant. Where no facilities are available planning for such should be begun now.

Some items for immediate attention are set forth:

1. Clean and mound sand filters 12 to 14 inches high on approximately eight foot centers or ridge the sand to approximately the same height in such a way that complete coverage of the bed by the settled sewage will occur.

2. Service all mechanical equipment and repair if necessary.

3. Clean and repair siphons and siphon chambers.

4. Check and clean heating equipment, including auxiliary equipment.

5. Check sludge removal and recirculation pumps.

6. Thoroughly clean and repair all distribution equipment on filters. Check mercury seals and oil in rotary distributors.

7. Provide windbreaks on at least the north and west sides or periphery of trickling rock filters if necessary.

8. Draw sludge to allow sufficient sludge storage for solids accumulation through the severe months.

9. Remove dried sludge from sludge beds for early spring drawing.

10. Protect all valves from freezing.

11. Remove sludge from final clarifiers not equipped with sludge removal equipment.

12. Make provision for operator to spend sufficient time at the plant for maximum efficiency.

The impact of improperly treated sewage and wastes on the health and resources of the State is familiar to everyone. You, if an owner or operator of a treatment plant, help shoulder the

responsibility of providing year round cleanliness of the waters of the State. So prepare your plant and keep it operating regardless of the elements.

MORBIDITY REPORT

Disease	Sept. '50	Sept. '49	Aug. '50	Most Cases Reported from:
Diphtheria	4	1	0	Floyd 2, Lyon 1, Webster 1
Scarlet Fever	11	14	6	Clinton, Des Moines, Wayne
Typhoid Fever	1	1	2	Mills
Smallpox	0	0	0	
Measles	5	19	11	Black Hawk, Chickasaw, Dubuque
Whooping cough	140	9	113	Black Hawk, Dubuque, Linn, Scott
Brucellosis	18	35	14	Page 2, others scattered
Chickenpox	10	19	15	Washington 4, others scattered
Influenza	0	0	0	
Meningitis meng.	2	1	3	Polk, Sac
Mumps	22	27	13	Black Hawk, Polk
Pneumonia	4	4	0	Boone, Hardin, Polk
Poliomyelitis	483	267	218	Linn, Polk, Pottawattamie, Winnebago
Rabies in animals	54	19	24	Jasper 4, Polk 18, Story 6, others scattered
Tuberculosis	104	98	60	For the state
Gonorrhea	76	50	108	For the state
Syphilis	221	181	180	For the state

NORTH CENTRAL MEDICAL CONFERENCE

The annual North Central Medical Conference will be held November 19 at the Hotel Radisson in Minneapolis, Minn. The meeting is scheduled as follows:

9:30 Registration

10:00 Call to Order

Presidential Address—

Willard A. Wright, M.D., Williston, N. D.

10:30 Eighty-Second Congress—

Joseph S. Lawrence, M.D., Director, Washington Office, AMA

Emergency Medical Service—

James C. Sargent, Milwaukee, Wisc., Chairman, Committee on Emergency Medical Service, AMA

12:30 Luncheon

Willard A. Wright, M.D., presiding

A Message from the Board of Trustees of the AMA—

Leonard W. Larson, M.D., Bismarck, N. D., Member of the Board of Trustees

2:00 Hospitals and the Practice of Medicine

Physician-Hospital Relationships—

Louis J. Pankow, M.D., Sioux Falls, S. D., President, South Dakota State Medical Association

Pathology—

D. W. Stovall, M.D., Madison, Wisc., Director of the Division of Laboratories, Wisconsin State Board of Health

Anesthesiology—

Ralph T. Knight, M.D., Minneapolis, Director, Division of Anesthesiology, University of Minnesota

Radiology—

Howard B. Hunt, M.D., Omaha, Nebr., Chairman, Committee on Hospitals and Professional Relations, Nebraska State Medical Association

The JOURNAL *of the* Iowa State Medical Society

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Just One Vote—November 7, 1950

Headlines, every day conversation and everyday living are related to and concerned about war, communism, socialism, taxes, calling reserves, the draft, new withholding tables, new social security provisions, veterans hospitals, foreign policy, the United Nations, appeasement of Russia, Hiss, Acheson, Marshall, the atomic bomb, the "H" bomb, the debt and so forth.

Your life, your money, your property, your family and your existence are all involved. Your chips are down in the serious affairs of the world and in the serious local and national affairs of our own United States of America.

Is your stake important enough to take a part in this great country? Is it important enough to vote November 7 and get others to vote and work? In 1948, only 45 million persons out of approximately 93 million people eligible to vote in the United States voted. One vote was the margin in the electoral college in three presidential elections. A one vote margin in Congress gave statehood to California, Idaho, Oregon, Texas and Washington. A one vote margin passed the first draft act in World War II. Truman carried Ohio in 1948 by a majority of 7,107 or less than one vote per precinct and over 2,000,000 in Ohio did not vote. Truman carried Iowa in 1948 by a majority of less than 12 votes per 2,400 precincts and thousands did not vote. In 1948, several seats in the Iowa Legislature were determined by just a few votes in each county.

Your one vote and your friends' votes are important. Citizenship is a precious heritage, and

the right to vote and to elect men of character and ability to office to solve today's local, state and national problems will affect your life, your family, your profession, your money and property. Remember to vote November 7, 1950.

December Meeting of AMA

The Fourth Clinical Session of the American Medical Association, designed primarily for the general practitioner, will be held in Cleveland, December 5-8.

The scientific sessions and the scientific and technical exhibits will be presented in the Cleveland Municipal Auditorium. Meetings of the House of Delegates will be held in the Statler Hotel. These sessions of the body elected to govern the affairs of the AMA are attracting more and more non-delegate physicians each year.

Outstanding clinical teachers with recognized ability as speakers will headline the scientific demonstrations. Actual cases will be presented and discussed. Diagnoses, treatment and preventive measures as they fit into the daily practice will receive the greatest attention.

Each clinical session will be limited to an attendance of 100 physicians. These small groups will make it possible for the general practitioner to enter actively into the discussion and to inquire about his own cases. Leading men in each of the fields under discussion will be available to help with the problems presented.

Once again color television will take its place on the program. A schedule of surgery, clinical treatment and examination will be telecast from the Western Reserve School of Medicine to the auditorium.

The annual General Practitioner Award has come to be regarded as one of medicine's highest honors and a definite step toward increasing the recognition of the family doctor. This year's selection will be made at the Cleveland meeting.

The steadily climbing registration of general practitioners at the clinical sessions and the comments of those participating indicate these meetings are valuable means of keeping abreast of developments in medicine. It is hoped that a record number of physicians will take advantage of the opportunity to attend. The program has been designed with that in mind.

More Doctors Being Trained

Early in October, the *Omaha World Herald* carried an editorial entitled "More Doctors Being Trained." This was reprinted in the *Des Moines Register* and because it is of interest to us of the medical profession, is being quoted herewith. The JOURNAL feels sure that many doctors will

appreciate having these figures on the actual number of doctors being educated and that they will agree wholeheartedly with the final paragraph of the editorial.

"The American Medical Association has reported that 25,103 students were enrolled in the nation's 72 medical schools last year and that 5,553 physicians were graduated.

"Prospects are that more than 6,000 graduates will be turned out this coming year and the freshman class may exceed the 7,000 enrolled last year.

"New schools are being organized, old ones are expanding and, says the AMA, freshmen enrollment will soon be about 7,500 a year.

"This is the answer of the medical profession to charges that it is not expanding as it should, and is deliberately promoting a shortage of physicians. The doctors point out that there are now twice as many medical students as there were in 1910 while the population has grown only about 61 per cent. Moreover, medical schools are spending close to 200 million dollars on new classrooms and laboratories, either just completed, under construction or authorized in the past year.

"The doctors feel that they are being falsely accused of undermining the profession. At a time when they are maligned by politicians for other reasons, this, understandably, is a little hard for them to take."

Recent figures from the State University of Iowa College of Medicine show a similar increase. According to President Hancher, in 1947-1948, there were 90 freshmen, 70 sophomores, 61 juniors and 57 seniors enrolled in the medical school for a total of 278, with 57 graduating.

In 1948-1949, there were 92 freshmen, 79 sophomores, 70 juniors and 58 seniors for a total of 299, with 58 graduating.

In 1949-1950, there were 100 freshmen, 81 sophomores, 88 juniors and 69 seniors, a total of 338, with 70 graduating.

For 1950-1951, the medical school has 121 freshmen, 93 sophomores, 85 juniors and 87 seniors, a total of 386, with 87 being expected to graduate.

Thus it will be seen that in four years the number of graduates has increased over 50 per cent, from 57 to 87. This increase should continue from now on because of the larger number being admitted to the medical school.

Medical Television

With the development of television, it is interesting to note the possibilities as related to the medical profession. Undoubtedly many of the physicians of the state have attended national

meetings where operative methods have been presented to a medical audience via special television channels.

Currently, in connection with the advertising campaign of the American Medical Association, references have been made regarding doctors and their work. Particularly appreciated was the dedication of the Ted Mack Amateur Hour program of October 10. Such comments cannot help but improve the relationship of the doctor with his patient.

The Vitamin Corporation of America is, at present, sponsoring a 13 week series of half hour programs entitled "Meet Your Doctor," presented as a public service program for healthier communities. Especially featured will be the problems of arthritis and rheumatism, heart disease, multiple sclerosis, cerebral palsy and cancer.

Everyone who takes the time to watch a television set will surely be impressed with the importance of medical subjects as affecting himself and the health of his community. We should feel fortunate indeed to have a new medium in which the goal of better health for the public may be so emphasized.

Rehabilitation of Cardiovascular Patients

In the past we have been prone to consider one who has had serious heart disease or a paralytic stroke as totally and permanently disabled. These people have often been shelved and sadly neglected insofar as proper treatment and rehabilitation are concerned. Most of these can and must be assisted and guided into some form of work.

Many rheumatic heart disease patients can find work for which they are fitted and may live full, productive and complete lives. Insurance companies no longer consider a man who has had a coronary occlusion as necessarily totally and permanently disabled for life. Many people have nervous hearts or functional heart disorders which frighten and disable them when they should be reassured and sent back to work.

Recently Dr. Howard O. Rusk, Professor and Chairman of the Department of Rehabilitation and Physical Medicine of New York University of Medicine, addressed the Scientific Assembly of the American Academy of General Practice. According to his calculation, with the increase in life tenure and the present rate of cardiovascular accidents and disabilities, by 1980 there will be in this country one paralytic or non working man for every able-bodied working man. He states that 90 per cent of all disabled people can do something. Of their hemiplegiacs at the University Hospital, he states that 90 per cent are able to walk and 40 per cent are back to work after

about seven weeks of re-education and treatment. These patients are not left idly in bed as hopeless invalids but are given high protein diets to prevent bed sores, sand bags in axilla and along legs for support, foot boards to prevent toe drop, pulleys by which they can exercise the paralyzed limb with the help of the well limb, leg braces for 50 per cent because of foot drop, built up shoes to relieve clonus and parallel bars. Antispasmodics are employed to relieve spasm. These aids are brought into use early, and the patients are ambulated as soon as possible, often with the help of two kitchen chairs. He does not believe in walkers.

Dr. Rusk states that there were 400 paraplegiacs in World War I and only one is now alive. However, they have now had at the University 100 paraplegiacs out of 125 back after 90 days training to some job in the mining industry. He says 50 per cent can be trained to an automatic bladder and 80 per cent to an automatic bowel.

In a study in cardiac clinics in New York City, 65 per cent of the patients attending were found to be performing some type of useful or productive activity. Not all people with heart disease can work, but the ability to carry on a useful occupation is found among persons having all types of heart disease. The ability to work and the limitations in work must be arrived at by the patient with the aid of a physician trained in diseases of the heart. Seldom, if ever, is physical exertion alone, judiciously applied, productive of heart disease. Even coronary thromboses seem about as common in sleep or in a sedentary situation while only two per cent have been found to occur with unusual exertion. As to employment, there is now a slogan among employers to "Employ the handicapped, it's good business." The physically impaired employee, properly adjusted, wants very much to hold his job, and his attitude toward his job and toward his employer may be better than that of the able-bodied employee.

Some states have now enacted so-called "second-injury laws" to afford employers protection against excessive costs which might result from the disablement of a physically handicapped individual.

Often the worker with unrecognized heart trouble is a greater risk to his employer than the one known to have an abnormal heart placed at a job for which he is physically qualified.

Student Health at Iowa City

The 20th Annual Report of the State University Department of Health for the year ending June 30, 1950, has recently been received by the

JOURNAL. Director M. E. Barnes, M.D. and his associate director, C. I. Miller, M.D., along with the members of their staffs are to be commended for their work.

The Department of Health is divided into the inspection, epidemiology and student health and outpatient divisions. Each division has a physician as its chief. Items selected for special comment because of the health problems which they have introduced or intensified are presented along with routine work of the various departments. Total services rendered by the University Medical Care during the 1949-50 period numbered 41,786.

It will be heartening to all parents to know that the Health Department at the State University of Iowa is mindful of the health needs of all students. The Department has shown by this report that medical care upon a high level is being carried out at Iowa City.

Medical Technologist

A great many physicians encountering for the first time M. T. after a name do not realize that these initials stand for "*Medical Technologist*." It implies that the individual is a medical laboratory technician who has been approved by the Registry of Medical Technologists. This group has been sponsored by the American Society of Clinical Pathologists with the approval of the American Medical Association, the American College of Surgeons and the American Hospital Association.

In order to ethically use these initials the individual must have had at least two years of college (often four), including inorganic, quantitative and organic chemistry, bacteriology and biology; all of this is followed by at least 12 months of study in an American Medical Association approved school of medical technology.

There are six approved schools in Iowa with a maximum enrollment of 27 students. It is quite apparent that a technician who has taken the trouble to follow the program outlined above will be better enabled to serve the medical profession.

The demand for medical technologists has far exceeded the supply, particularly because of the increasing emphasis upon scientific medicine. All physicians are in a position to direct young women interested in science to approved schools of medical technology. If further information is desired, it is suggested that you consult your local pathologist, write to the American Medical Association, or to the Registry of Medical Technologists, Muncie, Indiana.

President's Page

Many persons in Iowa who hold Blue Cross policies issued by Hospital Service, Inc., are going to be greatly concerned over a recently announced monthly premium increase of 25 cents per individual and 70 cents per family. This is so substantial an increase that it may cause some of them to discontinue the coverage. Such action will reflect directly upon Blue Shield if the subscriber holds both policies.

Reason for the raise is said to be due to an increase in admissions and utilization of various services, particularly drugs. Hospital Service, Inc., places no dollar limit on anything but room rate, x-ray and anesthesia.

Blue Cross differs from Blue Shield in that it has no control over the utilization of its services. Hospitals determine most of the charges entering into the cost of the service, while physicians control admissions of and services used by the patients.

The State Medical Society has worked consistently with Blue Cross in explaining to the doctors their responsibility in using the coverage. In line with that policy I am going to discuss your part in this rate increase.

You are the one who knows whether the patient should be hospitalized and what care he should have. You would be remiss if you did not prescribe what you think necessary for his welfare. Is it possible, though, that when he has insurance the tendency is to hospitalize him? Are you also tempted to use some of the newer, costly drugs since he will not have to pay for them?

Our welfare is bound to that of Blue Cross. It offers a most important adjunct to our care of the sick. May I ask that you let your conscience be your guide these coming months and that you examine critically the services you order for every patient. If you can hold down the amount of services ordered without jeopardizing the patient's welfare, you will help decrease the cost of hospital care and make it possible to lower Blue Cross rates to your patients.

T. F. Thornton, M. D.

President, Iowa State Medical Society

NEWS NOTES

from the

Committee on Medical Service and Public Relations

MINIMUM CODE OF COOPERATION

Submitted for consideration of all doctors of medicine, hospital officials and newsmen of Iowa by the Iowa State Medical Society, Iowa Hospital Association, Iowa Radio News Association, Iowa Press Association Iowa Daily Press Association. This code was approved by the Executive Council, Iowa State Medical Society, September 7, 1950.

Doctors

1. The executive offices of the Iowa State Medical Society and officers of county medical societies shall be available for newsmen to obtain authentic information as promptly as possible on health and professional subjects. If the information desired is not immediately available, it shall be the duty of the executive office either to obtain the information, or to locate a competent authority from whom newsmen can obtain it directly.

2. Officers, committee chairmen, or designated spokesmen of the various professional associations may be quoted by name in matters of public interest for purposes of authenticating information given. A list of current spokesmen of the various associations shall be supplied representatives of the press and radio, and the list shall be kept up-to-date. This shall not be considered by their colleagues as a breach of the time-honored practice of avoiding personal publicity, since it is done in the best interests of the public and the profession.

3. In matters of private practice, the wishes of the attending doctor shall be respected as to use of his name or direct quotation, but he shall give information to the press and radio where it does not jeopardize the doctor-patient relationship, or violate the confidence, privacy, or legal rights of the patient, as follows:

a. In cases of accident or other emergency cases: The name, age, address, occupation, and sex of the injured; nature of the accident; and when ascertained, the degree of seriousness. It is understood that pending complete prognosis, these statements may of necessity have to be qualified with such words as "possible," "appar-

ently," and so forth. **In most cases, condition reports limited to such words as good, fair, serious, critical, are sufficient on initial contact.**

b. In cases of illness of a personality in whom the public has a rightful interest: the nature of the illness, its gravity, and the current condition.

c. In cases of unusual injury, illness, or treatment: The above information, and scientific information which will lead to a better public understanding of the progress of the healing arts. Any doctor becoming aware of such a case is urged to notify the designated spokesman of his professional association at once, for immediate communication of appropriate information to the press and radio.

Hospitals

1. Each hospital shall designate spokesmen who shall be competent to give authentic information to the press and radio in emergency cases at any time of the day or night. Information shall be provided as rapidly as it can be obtained, without interfering with the health of the patient. Nothing in this paragraph, however, contemplates the providing of any information which shall jeopardize the hospital-patient relationship, or which violates the confidence, privacy, or legal rights of the patient.

2. In non-emergency cases, unless expressly forbidden by the patient or the attending doctor, hospitals shall provide information to newsmen on the same basis as provided in Paragraph Three of the above section headed "Doctors."

Newsmen

1. Press and radio newsmen, recognizing the first obligation of the doctor and hospital is to safeguard the life, health and legal rights of the patient, shall cooperate by refraining from any action or demands that might jeopardize the patient's life or health and rights.

2. When a doctor or hospital authority is quoted directly and by name, press and radio newsmen shall make certain to the best of their ability the quotation is accurate both in content and context.

3. Press and radio newsmen shall exercise editorial judgment to avoid publishing material

(Continued on page 546)

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

ADVANCES IN SURGERY—edited by William DeWitt Andrus, New York, Chairman; Hugh Cairns, Oxford; Edward D. Churchill, Boston; Clarence Craford, Stockholm; Lester R. Dragstedt, Chicago; Emile Holman, San Francisco; John S. Lockwood, New York; D.W. Gordon Murray, Toronto; Alton Ochsner, New Orleans, and Isidor S. Ravidin, Philadelphia, Interscience Publishers, Inc., New York, 1949. Price \$11.00.

AN ATLAS OF HUMAN ANATOMY—by Barry J. Anson, Ph.D., Professor of Anatomy, Northwestern University Medical School, W. B. Saunders, Co., Philadelphia, 1950. Price \$11.50.

ESSENTIALS OF ORTHOPAEDICS—by Philip Wiles, M.S., F.R.C.S., F.A.C.S., Honorable Orthopaedic Surgeon, Middlesex and King Edward Memorial Hospitals; Consulting Orthopaedic Surgeon, Royal Surrey County Hospital; Formerly Brigadier, A.M.S., Consulting Surgeon, Middle East Force, Persia and Irak Force, Eastern Command, India and 12th Army, S.E.A.C. The Blakiston Co., Philadelphia, 1949. Price \$10.00.

FRACTURES AND DISLOCATIONS FOR PRACTITIONERS—by Edwin O. Geckler, M.D., Fellow of the American College of Surgeons, Fellow of the American Academy of Orthopaedic Surgeons, Fellow of the American Association for the Surgery of Trauma, Diplomate of the American Board of Orthopaedic Surgery, The Williams and Wilkins Co., Baltimore, 1948. Price \$5.00.

PATHOLOGIC PHYSIOLOGY: MECHANISMS OF DISEASE—by William A. Soderman, M.D., F.A.C.P., Professor of the Prevention of Tropical and Semi-Tropical Diseases, Tulane University of Louisiana School of Medicine; Senior Visiting Physician, Charity Hospital of Louisiana; Consultant in Medicine, U. S. Marine Hospital at New Orleans, W. B. Saunders, Philadelphia, 1950. Price \$11.50.

THE PHYSICIAN EXAMINES THE BIBLE—by C. Rainer Smith, B.S., M.D., D.N.B. Philosophical Library, New York, 1950. Price \$4.25.

PRINCIPLES AND PRACTICE OF SURGERY—by Jacob K. Berman, A.B., M.D., F.A.C.S., Associate Professor of Surgery, Indiana University School of Medicine; Associate Professor of Oral Surgery, Indiana University School of

Dentistry; Chief Consultant in Surgery, Billing's Veterans Administration Hospital, Fort Benjamin Harrison, Indiana; Director of Surgical Education and Surgical Research, Indianapolis General Hospital, The C. B. Mosby Co., St. Louis, 1950. Price \$15.00.

PRINCIPLES OF INTERNAL MEDICINE—T. R. Harrison, M.D., editor-in-chief, Southwestern Medical College; with Paul B. Beeson M.D., Emory University Medical School; William A. Resnik, M.D., Stamford, Conn.; George W. Thorn, M.D., Harvard University Medical School; and M. M. Wintrabe, M.D., University of Utah Medical College and 48 contributing authors, The Blakiston Co., Philadelphia, 1950. Price \$12.00.

PROGRESS IN GYNECOLOGY—edited by Joe V. Meigs, M.D., Clinical Professor of Gynecology, Harvard Medical School; Chief of Staff of the Vincent Memorial Hospital; the Gynecological Service of the Massachusetts General Hospital; Surgeon, Pondville and Palmer Hospitals, and Somers H. Sturgis, M.D., Clinical Associate in Gynecology, Harvard Medical School; Assistant Surgeon, Massachusetts General Hospital, Boston, Grune and Stratton, New York, 1950. Price \$9.50.

SANTA CLAUS, M.D.—by W. W. Bauer, M.D. The Bobbs-Merrill Co., Inc., Indianapolis, 1950. Price \$2.75.

SEXUAL FEAR—by Edwin W. Hirsch, B.S., M.D., Attending Urologist, Englewood Hospital, Chicago; Former Associate in Urology, College of Medicine, University of Illinois; American Urological Society, Garden City Publishing Co., Inc., Garden City, New York, 1950. Price \$3.00.

THE 1950 YEAR BOOK OF MEDICINE (MAY, 1949-MAY, 1950)—edited by Paul B. Beeson, M.D., J. Burns Amberson, M.D., William B. Castle, M.D., Tinsley R. Harrison, M.D., and George B. Eusterman, M.D. The Year Book Publishers, Chicago, 1950. Price \$5.00.

A TEXT BOOK OF X-RAY DIAGNOSIS BY BRITISH AUTHORS—edited by S. Chacevanc Shanks, M.D., F.R.C.P., F.F.R., Director, X-Ray Diagnostic Department, University College Hospital, London, and Peter Kerley, M.D., F.R.C.P., F.F.R., D.M.R.E., Director, X-Ray Department, Westminster Hospital, Radiologist, Royal Chest Hospital, London, W. B. Saunders Co., Philadelphia, 1950. Price \$18.00.

BOOK REVIEWS

Fractures and Dislocations for Practitioners, by Edwin O. Geckler, M.D. (The Williams and Wilkins Co., Baltimore, \$5.00). Many of the advancements in this subject during the recent post war interval have been added to the fourth edition of this textbook. Numerous illustrations add clarity to the method of treatment of the various types of fractures and dislocations. A good list of references is found at the end of each chapter. Any physician treating fractures and dislocations will do well to include this volume in his library.—E. M. George, M.D.

A Textbook of Physiology, edited by John F. Fulton, M.D. (The W. B. Saunders Co., Philadelphia, \$10). The 16th edition of this well known textbook is, like its preceding editions, an essential source of general reference for the busy practitioner who wishes to keep his concepts of basic physiology as current as textbooks will permit. The book represents the contributions of numerous well qualified individuals writing in the fields of their particular interest. This type of textbook construction has gained much favor in recent years—and deservedly so. Surely it is nowhere more valuable than in the field of physiology in which no man can be authoritatively informed

in all ramifications. In general, the balance of subject matter seems good although, understandably, the central and peripheral nervous systems receive relatively extensive treatment. The graphic illustrations are adequate, but some of the photographic reproductions are inferior. The general caliber of the book is excellent, and it is highly recommended to students and physicians alike.—S. K. Davis, M.D.

The Surgical Treatment of Facial Injuries, by Varaztad Hovhannes Kazanjian, M.D., and John Marquis Converse, M.D. (The Williams and Wilkins Co., Baltimore, \$10). Dr. Kazanjian of Boston and Dr. Converse of New York have collaborated to produce a new book which is rich in experience and information. The subject matter is well organized and illustrations excellent; the number of procedures described is myriad. This book is an invaluable contribution to a field which is all important in this age of trauma.—J. M. Bruner, M.D.

Santa Claus, M.D., by W. W. Bauer, M.D. (The Bobbs-Merrill Co., Inc., Indianapolis, \$2.75). The author has called the attention of the public to the fact that surveys have demonstrated that belief in

Santa Claus disappears on the average at the age of seven, except in Washington, D. C. With the wealth of his own material available, Dr. Bauer proceeds to prove that a Santa Claus in medicine is entirely a myth. In forceful language, easily understood by the layman, the arguments against governmental interference in the practice of medicine are most clearly presented so that the reader is enabled to form his own opinion regarding our position. It would do well for all physicians to read this book and to recommend it to patients and friends in order that the constructive program of the American Medical Association may be understood by all.—E. M. George, M.D.

Handbook of Obstetrics and Diagnostic Gynecology, by *Leo Doyle, M.D.* (University Medical Publishers, Palo Alto, Calif., \$2.00). This small compact book is neither a reference book nor a textbook. Rather, it presents in outline form what may be considered the essential features of obstetrics and diagnostic gynecology. Controversial matters have largely been avoided, as have detailed descriptions of surgical technics. In certain instances in which the physiology involved is not clearly understood, alternative hypotheses have been advanced. Therapeutics in this special branch of medicine are constantly changing as new investigations and better understandings of physiology are brought forth. Consequently specific treatment has been suggested by the probable change in the normal physiology. As a handbook, it presents concisely material essential in its field, so that it may be referred to without difficulty and reviewed generally and quickly.—E. D. Mattmiller, M.D.

Diagnosis and Treatment of Tumors of the Head and Neck, by *Grant E. Ward, M.D.*, and *James W. Hendrick, M.D.* (The Williams and Wilkins Co., Baltimore, \$15). This 800 page treatise includes all tumors of the head and neck except those of the central nervous system. The authors have spared no effort in making this book readable and authoritative. It is lavishly illustrated with photographs and drawings, many of which are colored. A textbook covering this field has been needed for some time, and this book is highly recommended to those concerned with this field.—J. M. Bruner, M.D.

Doctor Come Quickly, by *Frank J. Clancy, M.D.* (Superior Publishing Co., Seattle, Wash., \$2.95). The author, who practices in Seattle, has compiled many interesting experiences which have come to his attention. Physicians will obtain enjoyment from reading this book as they will undoubtedly be reminded of similar instances in their own practice. Laymen will also enjoy this book and perhaps realize that physicians are human beings just as they are.—E. M. George, M.D.

Sir William Osler Aphorisms, from His Bedside Teachings and Writings, edited by *William Bennett Bean, M.D.* (Henry Schuman, Inc., New York, \$2.75). This volume presents a series of aphorisms or epi-

grams of Osler, collected by the late Dr. Robert B. Bean, professor of anatomy, University of Virginia, during student and early graduate days while making rounds with Dr. Osler in Baltimore. These have been carefully edited with certain additions by his son, Dr. William B. Bean, professor of medicine, SUI College of Medicine. As stated in the introduction, the reason for collecting these sayings and writings of Sir William Osler, is to introduce him to a new generation of medical students, and again refresh the memory of an older generation.

Like all who are truly great, it is difficult to write of Osler. In re-editing these terse sayings, the author has caught the spirit of Osler and let it range over the "whole domain of medicine in its broadest humanistic aspects, imparting to the reader the shrewd practical observation of a vastly experienced clinician along with the wise reflections of a profound thinker and man of the world."

As in the words of Harvey Cushing: "It is hoped that his spirit be conveyed to those medical students who did not know him; and particularly to those in America, lest it be forgotten who it was that made it possible for them to work at the bedside in the wards." Every doctor will welcome these Osler Aphorisms to his library.—W. L. Bierring, M.D.

Manual of Rheumatic Diseases, by *W. Paul Holbrook, M.D.*, and *Donald F. Hill, M.D.* (The Year Book Publishers, Inc., Chicago, \$4.25). A concise, well illustrated book, this small volume outlines the important diagnostic features and the principal methods of therapy of the rheumatic disease. A practical program designed to prevent and correct deformities associated with rheumatoid arthritis is presented in detail. Emphasis is placed on simple procedures that are useful in the home and office. This manual should be useful to any physician who treats patients having chronic rheumatism.—P. Couchman, M.D.

A Practice of Orthopaedic Surgery, by *T. P. McMurray, M.D.* (The Williams and Wilkins Co., Baltimore, \$8.00). This is the third edition of an excellent treatise on the subject of orthopedic surgery as practiced by the author. Having been trained in England, there is great stress on the use of braces and splints with little reference to American methods of treatment. It will prove helpful as a reference book for all physicians treating bone and joint diseases.—E. M. George, M.D.

Breast Deformities and Their Repair, by *Jacques W. Maliniac, M.D.* (Grune and Stratton, Inc., New York, \$10.00). In this small volume, mammaplastic operations are discussed from the standpoint of anatomy, physiology, pathology and surgery. The major portion is given to accurate and complete technical procedures, which are accompanied by photographs and diagrams. It is easily read and the material is presented in a manner applicable for use by the general surgeon.—H. E. Wichern, M.D.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. CLAIRE H. MITCHELL, Indianola

President-Elect—MRS. HOWARD W. SMITH, Woodward

Secretary—MRS. RALPH J. SELMAN, Ottumwa

Treasurer—MRS. DWIGHT C. WIRTZ, 449-56th St., Des Moines

FALL BOARD MEETING

The Executive Board of the Woman's Auxiliary met September 26 at the Savary Hotel in Des Moines. Mrs. Claire H. Mitchell, President, conducted the conference. Mrs. Dwight C. Wirtz, Treasurer, reported a balance on hand of \$918.35. The questions of the need for raising state dues and for printing yearbooks were shelved until the winter board meeting. Mr. Leonard C. Murray, Director of Health Education of the State Health Department, spoke on "County Health Councils, Their Possibilities and Their Problems."

The Board approved a recommendation that the Auxiliary re-divide districts in the state to coincide with the 11 districts of the State Medical Society. In line with this recommendation, a motion was passed to discontinue the offices of the three directors and to increase the number of councilors to correspond with those of the medical districts.

Mrs. Lonnie A. Coffin, Mrs. Ralph J. Selman and Mrs. Marion H. Brinker were elected as members of the nominating committee; two more members will be appointed by the president.

Mrs. Ralph J. Selman reported on her attendance at the National Woman's Auxiliary meeting in San Francisco. Medical legislation and wise dissemination of information as well as personal participation in furthering those activities recommended by the doctors provided the main theme of the convention.

• Mrs. Keith M. Chapler

DISTRICT MEETINGS

The President and President-elect of the Women's Auxiliary to the Iowa State Medical Society were invited to attend the district meetings of the Iowa State Medical Society. The wives of the doctors in the district were also invited to the dinner and meetings. The average attendance of doctors' wives at the meetings was 16.

Mrs. Mitchell and I both felt that we had an excellent opportunity to meet and talk with doctors and wives over the State. We visited with the women after the meetings and were able to learn about local situations. These meetings served to bring the State Auxiliary into closer contact with the County Auxiliaries, members-at-large and non-members.

During our travels to and from the meetings with Dr. Ransom D. Bernard, Don Taylor, Mr. Irving W. Myers and other members of the caravan, we had an opportunity to learn the problems of the

State Medical Society. Mrs. Mitchell and I both greatly appreciate the fine spirit of cooperation and general good feeling that was evident at the district meetings and during the trips made to and from the meetings.

Mrs. Howard Smith, President-elect

RECOMMENDED PROGRAM PLAN KNOW THE FACTS

November-December—Special Projects.

Work for the handicapped

School health programs

Community Health Councils

Rural health problems

Publications: *Bulletin* and *Today's Health*

January-February—Nurse recruitment and loan fund.

March-April—Voluntary health plans.

For reference material relative to the above suggestions, for outlines of suggested health programs for other organizations, and for a list of health services available in the state of Iowa, write to Mrs. Charles H. Coughlan, Program Chairman, 629 11th Avenue, N., Fort Dodge.

Mrs. Frank D. Edgington
Mrs. Lester R. Hegg
Mrs. John I. Limburg, Jr.

NURSE RECRUITMENT AND LOAN FUND FACTS

1. Two girls have been aided by the Loan Fund.
2. Although a few good prospects may be lost because entrance requirements demand that a girl be in the upper half of her high school class, there is a marked correlation between good grades and good nursing.
3. Appeals should begin at junior high or freshman and sophomore levels, for many juniors and seniors have already made career decisions.
4. Some communities are sponsoring scholarships with the understanding that the girl return to her community and work for a stipulated time. Red Oak is pioneering in this project.
5. Some hospitals, although they do not publicize it, may extend help to girls if the need is evident.
6. Projects presented:
 - a. Assemble material on Nurse Recruitment.
 - b. Compile a list of available scholarships.
 - c. What is the best way to recruit nurses?
 - d. How can we increase the Loan Fund?

Mrs. Carl A. Hanson, Chairman
Mrs. Harold Ertz
Mrs. Thomas L. Trunell

HINTS TO COUNTY PRESIDENTS

1. Think of the Auxiliary not as MINE, but OURS.
2. Distribute responsibilities. Don't try to do the work alone. Use your antagonists; working hard together may dissolve antagonism and create friendliness.
3. Back your Medical Society. Work well done will encourage the doctors to seek your help more and more.
4. Encourage and seek new members.
5. State and National dues should reach the State Treasurer, Mrs. Dwight C. Wirtz, 449 56th St., Des Moines by January 1951. Cards sent to each member in November will facilitate the County Treasurer's work.
6. Monthly meetings will get the best results.
7. Keep as many members participating as possible.
8. Try at least one joint meeting or party with your Medical Society during the year.
9. Seek program suggestions from members as well as working with your program chairman.
10. Seek the suggested programs in "Guide for County Presidents," page 9. Be sure to pass this on, and other helpful materials, to your successor.
11. Belong to as many other organizations as possible.

Mrs. J. Donald Hennessy, First Vice President

FACTS ABOUT PRACTICAL NURSE EDUCATION

Practical nurse education began about 1907. There are now 43,842 licensed practical nurses in the United States who have been licensed either under waiver clauses or who have been trained. Some authorities believe that 100,000 will be needed next year.

There are 156 known training programs in the U. S., and probably many that are not known. Of these, 112 are approved by states or National Association of Practical Nurse Education. There is a trend toward placing practical nurse education in vocational schools, and according to Miss Amy Viglione of the United States Office of Education, there is much favor for this trend.

Two territories and 29 states have licensing laws for practical nurses, but only four have mandatory laws. Iowa's State Legislature passed an act covering permissive licensure of practical nurses in 1949. Under this law, 327 practical nurses have become licensed. At present, the Mercedian School for Practical Nurses in Marshalltown is the only practical nurse school in Iowa.

PUBLICATION PONDERINGS

The Iowa Health Council is proposing a bill which would abolish local boards of health in favor of county or multi-county boards comprised of 11 members with staggered terms of six years. Tax levy to support the health department would be \$1.00

for every \$1,600 of taxable value. Iowa, seemingly, is about ten years behind many states in its maintenance of local health boards.

On a national level, Dr. Dean A. Clark and his Senate Committee will be expected to report their findings February 1, 1951 in regard to a questionnaire sent to all national health, hospital and medical care insurance companies and organizations.

The American Bar Association, in its annual meeting in Washington in September, openly expressed its professional alarm at the threat of socialization of law. It is hoped that socialization may be checked by "the encouraging growth of voluntary legal aid societies organized by state and local bar associations with the approval of the A.B.A."

"I think it is perhaps worthy of interest in the discussions of the capitalistic system, those who stress sharing the wealth forget the importance of creating the wealth. You can't share if you have not created. . . . It seems to me that in the preservation of the private enterprise system, there has recently grown up the philosophy of 'survival of the sickest' instead of 'survival of the fittest.' . . . It is also worthy of note that in the many investigations which take place in our country, it is almost always true that a successful company or a successful enterprise is the subject of suspicion and investigation. I wish they would start investigating the failures instead of the successes. There might be some very interesting economic information developed as a result."—Brigadier General David Sarnoff, Chairman, Board of Radio Corporation of America.

Mrs. K. M. Chapler

Members of the Dallas-Guthrie Auxiliary viewed the film "Self Examination of the Breast" September 21 at the Perry Country Club.

NEWS NOTES

(Continued from page 542)

designed solely to exploit the patient, doctor, or the hospital.

4. On all matters of general health news, press and radio newsmen shall make all reasonable effort to obtain authentic information from qualified sources indicated above before proceeding to publication or broadcast.

CHANGE OF ADDRESS

Help your central office to maintain an accurate mailing list. Send your change of address promptly to the Journal, 505 Bankers Trust Bldg., Des Moines 9, Iowa.

SOCIETY PROCEEDINGS

MEETINGS

Black Hawk

The regular meeting of the Black Hawk County Medical Society was held October 17 at the Hotel Russell Lamson in Waterloo. Dr. Hunter H. Comly, assistant professor of pediatrics in psychiatry at the SUI College of Medicine, spoke on "Differential Diagnosis of Organic and Psychosomatic Diseases in Children."

Crawford

Dr. Leo H. Kuker of Carroll spoke on "Surgical Management of Gallbladder Disease" at the Crawford County Medical Society meeting in Denison October 12.

Dubuque

Dr. Ransom D. Bernard, General Manager of the Society, spoke on "The Functions and Workings of the State Medical Society" at the regular meeting of the Dubuque County Medical Society October 10 at the Bunker Hill Golf Club in Dubuque. Dr. Donald C. Conzett, President-elect of the State Medical Society, was presented a gavel by the members of the County Society. Several out of town guests attended the meeting.

Iowa Orthopaedic Society

The Iowa Orthopaedic Society held its fall meeting at the Mercy Hospital in Davenport September 30. Dr. Carroll B. Larson, head of the department of orthopaedics at the SUI College of Medicine, was introduced. Dr. Leo J. Miltner, president of the Society, presented various phases of his practice during the past 25 years.

Iowa Trudeau Society

The Iowa Trudeau Society will meet November 19 at the Broadlawns Hospital in Des Moines. Papers presented will be of interest to general practitioners as well as specialists in thoracic diseases.

Johnson

The first fall meeting of the Johnson County Medical Society was held October 4 at the Jefferson Hotel in Iowa City. Dr. James W. Culbertson, assistant professor of internal medicine at the SUI College of Medicine, spoke on "Congenital Heart Disease."

Linn

Dr. William J. Kerr, professor of medicine at the University of California, will speak on "The Clinical Use of Sympalophone, a Double Stethoscope, for the Lateralization and Comparison of Sound" at the November 22 meeting of the Linn County Medical Society in Cedar Rapids.

Madison

The following officers were re-elected at the Madison County Medical Society meeting September 25: President, Glen J. Anderson, M.D., Winterset; Vice President, John F. Veltman, M.D., Winterset; Secretary-treasurer, Paul F. Chesnut, M.D., Winterset; Delegate, Ivan K. Sayre, M.D., St. Charles and Alternate Delegate, Carl B. Hickenlooper, M.D., Winterset.

Polk

Dr. Joseph A. Johnson of Detroit, Mich., will speak on "The Physical and Mental Problems of Adolescence" at the Polk County Medical Society meeting November 15 at the Hotel Savery in Des Moines.

Pottawattamie

"Disaster Plans to Cope with a Local Emergency" were discussed at a dinner meeting of the Pottawattamie County Medical Society September 19 at the Hotel Chieftain. Dr. Joseph Gross, of the Creighton University in Omaha, spoke on "Diagnosis and Treatment of Diseases and Injuries Around the Shoulder Joint."

Scott

Scott County physicians and their wives made an inspection of medical and working facilities of the Aluminum Company of America plant near Bettendorf October 4. Dr. Dudley A. Irwin of Pittsburgh, Pa., Alcoa national medical director, discussed "Alcoa Medical Policies" following a dinner meeting of the Society at the Hotel Black Hawk in Waterloo.

Tama

The Tama County Medical Society met September 28 at Dick's Cafe in Toledo. Dr. Otis D. Wolfe, Councilor for the Sixth Councilor District, spoke. Wyeth's color film on "Allergy" was shown.

PERSONALS

Dr. Milton E. Barrent has begun the practice of medicine in Clinton. A 1940 graduate of the SUI College of Medicine, Dr. Barrent was formerly a resident in surgery at the University Hospitals in Iowa City.

Dr. Charles T. Bigelow, eye, ear, nose and throat specialist for 53 years, has retired from his practice in Clinton.

Dr. John R. Camp, formerly of Thompson, received orders to return to service and reported to the Naval Hospital in San Diego, Calif., October 15.

Dr. Raymond W. Carson, formerly of Winterset, was called to active duty and reported October 12 at Camp Stoneman, Calif.

Dr. George F. Dolmage of Buffalo Center was honored September 18 for his 38 years of practicing medicine in the community.

Dr. Frank D. Donahue, formerly of Omaha, Nebr., has become associated with **Dr. William I. Evans** in Sac City. A 1943 graduate of Creighton University in Omaha, Dr. Donahue took his postgraduate work in surgery in Cincinnati and New Orleans.

Dr. Rudolph H. Duewall, formerly of Oak Ridge, Tenn., has recently become associated with **Drs. Fred Sternagel** and **Eugene C. Penn** in West Des Moines. Dr. Duewall was a 1938 graduate of the University of Oklahoma School of Medicine at Oklahoma City.

Dr. Everett M. George of Des Moines spoke to the Mother's of Spastic Children's Club of Mahaska County October 12 in Oskaloosa on "What is Cerebral Palsy?"

Dr. Ray J. Harrington of Sioux City spoke to the High Twelve Club members September 20 on "Expectations and Limitations of the New Drug, ACTH."

Dr. Robert L. Jackson, associate professor of pediatrics at the SUI College of Medicine, spoke on "The Recent Developments in Nutrition of Infants and Children" at the recent annual American Academy of Pediatrics meeting in Chicago.

Dr. Joseph L. Kehoe of Davenport spoke on "Children's Behavior" September 20 at the meeting of the Woman's Auxiliary to the Davenport Junior Chamber of Commerce.

Dr. Herbert Kersten of Fort Dodge spoke on "The Practice of Medicine in Europe" October 3 at a meeting of the Manson American Legion.

Dr. Louis J. Noun of Des Moines spoke on "Allergies" at the regular meeting of the Iowa Lutheran Hospital Society October 10.

Dr. Vernon H. Plager, formerly of Detroit, Mich., has begun the practice of medicine in Waterloo. He will limit his practice to obstetrics and gynecology. A 1943 graduate of the SUI College of Medicine, Dr. Plager received further training in Detroit hospitals.

Dr. Everett D. Plass, professor and head of obstetrics and gynecology of the SUI College of Medicine, has been named editor of the *Iowa Medical Bulletin*, the College's newly revised alumni publication.

Dr. Erwin Schenk has retired after 50 years of the practice of medicine in Des Moines.

Dr. John J. Tyson, Chief Medical Officer at the Des Moines Veterans Administration Center since 1947, has been appointed administrator of the Veterans Administration Hospital soon to open in Omaha, Nebr.

Dr. Thomas L. Vineyard of Ottumwa was elected first vice-president of the National Proctologic Association at its recent convention in St. Louis.

Dr. Maurice M. Wicklund recently became associated with **Dr. Arthur E. Perley** in Waterloo. Dr. Wicklund, a graduate of the McGill University Faculty of Medicine in Montreal, Canada, is an x-ray and radium specialist.

DEATH NOTICES

Dr. John Francis Loosbrock, 61, of Perry, died October 10 at the King's Daughters Hospital in Perry following a heart attack. A 1911 graduate of the Creighton University Medical College in Omaha, Nebr., Dr. Loosbrock practiced medicine in Des Moines and Lacona before going to Perry nine years ago. He was a member of the Dallas-Guthrie and Iowa State Medical Societies.

Dr. Leroy Richard Tripp, 64, of Washington, died in the Washington County Hospital September 20 after a two month's illness. A 1909 graduate of the SUI College of Medicine, Dr. Tripp practiced in Sioux City for 36 years before returning to his home in Washington. Dr. Tripp was a life member of the Woodbury and Iowa State Medical Societies.

ESSAY CONTESTS

The American Dermatological Association is offering \$300 for the best essay submitted of original work, not previously published, relative to some fundamental aspect of dermatology or syphilology. The winner will present his paper before the annual meeting of the Association in May, 1951. Inquiries should be sent to **Dr. Louis A. Brunsting**, Secretary, American Dermatological Association, 102-110 Second Ave. Southwest, Rochester, Minn.

The American Goiter Association is offering the Van Meter Prize Award of \$300 for the best essay submitted concerning original work on problems related to the thyroid gland. The award will be made at the Association's annual meeting in May, 1951. Essays should be sent to **Dr. George C. Shivers**, Corresponding Secretary, 100 East Saint Vrain St., Colorado Springs, Colo.

The American Urological Association offers an annual award of \$1,000 for essays on the result of some clinical or laboratory research in urology. Competition shall be limited to urologists who have been in such specific practice for not more than five years and to men in training to become urologists. The first prize essay will be presented at the American Urological Association's meeting in May, 1951. Inquiries should be sent to the Secretary, Boardwalk National Arcade Bldg., Atlantic City, N. J.

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THE MANAGEMENT OF INFERTILITY IN THE MALE

Reed M. Nesbit,* M.D. and

William C. Baum,* M.D., Ann Arbor, Mich.

The resigned acceptance of marital barrenness by society and by the practitioner responsible for the solution of this problem in the past has largely been swept aside by a renewed interest resulting from recent investigations directed toward the etiology and therapy of infertility. However, the practicing physician frequently finds himself confronted by the childless couple who seek application of the benefits promised by enthusiastic lay journalists, only to discover that the therapeutic resources available in response to this demand are limited, to say the least. It is a pleasure for all of us to report successful treatment in some such cases, but considering the entire problem, the actual per cent benefited remains distressingly low. It must be admitted that the development of diagnostic technics in the solution of barrenness has far out-distanced advances in therapeutics.

These facts need not deter the interested physician from an expected thorough investigation of the individual case. For, hampered as he may be by recognized gaps in the path of logical management, the gratifying discovery of responsible factors amenable to existing treatment is worth the many admissions of failure that necessarily accompany therapy in the remaining cases.

It is not the purpose of this paper to outline the detailed approach to the diagnosis of infertility in the male. For those interested, the published work of R. S. Hotchkiss, E. J. Farris and many others provide an excellent discussion of accepted technics of proven value. It is enough to recognize that in at least 40 per cent of unproductive marriages the husband is responsible for the failure to conceive, a fact that makes the routine examination of both partners imperative. The general practitioner, urologist and gynecologist must often combine their capabilities in an

effort to reach a satisfactory solution to the individual problem.

The therapist is most often faced by a co-operative young male whose concern is deep rooted and interest genuine. Should it be otherwise, the investigator is best advised to discontinue further pursuit of the case. If the examination be normal, as it is in a good many cases, it will be found that on ejaculation the patient presents a semen specimen of at least 2.5-3.0 cc. volume in which are suspended a minimum of 20 million active spermatozoa per cubic centimeter of fluid, or a total of 120-185 million sperm in the entire ejaculate. This normalcy is predicated on an intact endocrine system through which the pituitary gland directs the process of spermatogenesis and androgen formation by means of its gonadotropic components and general metabolic tone through its thyrotropic substance. It is understandable that any interruption of this basic mechanism might result in infertility.

In the light of present knowledge, it appears that primary pituitary deficiency is the most devastating in this regard. In its most severe forms described clinically as pan-hypopituitarism and exemplified by such classical types as Frohlich's syndrome, Levi-Lorain Pituitary Infantilism and Adiposo-Genital syndrome, aspermatogenesis and aleydigism are the rule. These people do not constitute a significant clinical problem from the standpoint of fertility by reason of their relatively small number statistically, and because the primary nature of their illness is not compatible with longevity and the support of progeny.

A greater problem is offered by less startling degrees of pituitary deficiency, usually a disturbance of only the pituitary-gonadal relationship, noted in the eunuchoid individual whose hypoplastic genitalia and characteristic body build suggest an interruption of endocrine function prior to puberty. In some cases even these signposts are absent and the existing deficiency is reflected only in testicular spermatogenic function. The pathologic tubular histology in these patients may vary considerably from an immature testis

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Presented at the Centennial Session, Iowa State Medical Society, Burlington, Iowa, April 23-26, 1950.

in a state of spermatogenic arrest to advanced hyaline degeneration and tubular sclerosis. The sperm count may vary from simple oligospermia, in this first instance, to complete azospermia in the latter. Fortunately the less severe changes often resolve themselves with the further maturation of the individual, but the advanced lesions remain permanent and are unaffected by glandular substitution therapy. Pituitary preparations have been recommended in cases of oligospermia associated with a microscopic picture of delayed spermatogenesis or spermatogenic arrest, all other cellular components being normal, on the assumption that these entities may be due to deficiencies in the follicle stimulating fraction of the gonadotropic substance. At present chorionic gonadotropins, anterior pituitary gonadotropin and mare serum gonadotropin constitute the best source of stimulating hormone. The first two have had the benefit of clinical evaluation, and a regime of alternating chorionic and anterior pituitary extract is recommended. If no appreciable change is noted in the semen analysis within a month of cessation of therapy then it is unlikely that further treatment of this type will be of benefit. The physician is cautioned to expect improvement in few cases so treated, and may actually be justified in assuming the attitude that present available preparations are not worth the expense and effort involved, for there is yet no known hormone substance which we may regard clinically as having a specific stimulating effect on the process of spermatogenesis.

The common association of oligospermia and hypothyroidism has led to the recommendation that a basic metabolic rate be secured in patients with this finding on semen analysis. The use of thyroid extract in the presence of proven underactivity of this gland is a logical step toward the correction of the low sperm count and often provides a surprising clinical response. The exact nature of this effect is difficult to explain, but it would appear that the influence of thyroid on testis function is an indirect one through control of general body metabolism. The drug may be given therapeutically in doses starting at 0.032 gm. twice a day and slowly increased to as much as 0.32 gm. daily if side effects are not undesirable.

There is no clinical evidence at present to recommend testosterone as a form of endocrine therapy in the correction of faulty spermatogenesis. While its role in the maintenance of the physiological activity of the prostate and seminal vesicles is a vital one, and the part it plays in the origin of the sexual drive recognized, it has no specific effect on gametogenic tissue, in fact, many in-

vestigators have reported a depression of the sperm count after its use. The increase in libido, genital size and fluid volume of the ejaculate attendant its clinical use in the eunchooid individual, while of psychological value to the patient, is of little note from the standpoint of fertility if there is no corresponding increase in the sperm count, for after all, these factors offer but a means of transport for the agents responsible for maintaining the continuity of the germ plasm and are without a purpose should their passengers be absent by reason of a fault outside their realm of influence.

It is interesting that spermatogenesis and androgen production, so closely allied anatomically through their common testicular origin, and physiologically by reason of their mutual source of stimulation, the pituitary, can be affected so differently by various factors detrimental to fertility. Leydig cell or interstitial cell activity appears to survive the ill-effects of increased local temperature, as noted in cryptorchidism, the ravages of inflammation secondary to orchitis, the deficiencies of vitamins A and E from malnutrition and even the ageing process itself in some instances, while tubular spermatogenic function is readily destroyed under these circumstances. The physician will do well to keep this fact in mind in his search for the cause of infertility. Fortunately, cryptorchidism is amenable to surgery, which, if done prior to or at puberty, will result in evident spermatogenic function in as high as 80 per cent of those so treated, while less than ten per cent remain fertile if left untreated. Orchitis if unilateral, like subtotal orchiectomy, will not materially affect fertility although the sperm count will be reduced, but if bilateral and associated with atrophy, azospermia and infertility are the rule. Sub-clinical vitamin deficiencies provide an interesting source of speculation in regards to their bearing on spermatogenic function. The irreversible tubular degeneration found in advanced avitaminosis A and E may be paralleled by less severe changes when these nutritional deficits are less well marked. On the other hand, obesity itself is often complicated by faulty spermatogenesis, so that both possibilities may provide a rational therapeutic approach in patients in whom dietary abnormalities can be detected.

Other factors, less easily defined, are known to have an effect on spermatogenic activity. One of the most interesting of these is the result of occupational fatigue or mental stress on the sperm count. We have had an opportunity to observe such changes in the married student population at this University. Frequently an otherwise normal individual under the duress of professional

schooling will develop an oligospermia changing his classification from a fertile male to one showing relative or sub-fertility. The mere change afforded by summer vacation with adequate rest, relief from mental stress and often the assumption of muscular activity in out-of-doors occupations will result in a prompt rise in the sperm count to conceptional levels with resultant impregnation. This fact may be applied to the tired businessman and other counterparts to therapeutic advantage.

Other anatomical and pathological abnormalities may be noted by the practitioner in his general examination, especially as concerns the continuity of the sperm conducting system. The nodularity of a healed epididymitis is often the first palpable clue that obstruction is an element in barrenness, especially if bilateral. Less common, and more difficult to detect are congenital abnormalities involving a similar loss of function. Here the value of testicular biopsy is at once apparent, for should microscopic examination reveal normal tubular function, measures such as vas-epididymostomy, designed to by-pass the source of obstruction, may be profitably employed. It should be mentioned however, that this operation is successful in but ten to 13 per cent of patients in the best hands. Should the inflammatory disease process be extensive, or if still active, and associated with chronic prostatitis and seminal vesiculitis, then therapy is best directed toward resolution of the infection, for sperm do not survive in such an environment. Often in its later stages, inflammatory reaction results in scar and contracture within the prostatic and seminal vesicular tissue and renders these glands useless as a source of the fluid means of transport for the sperm, a situation difficult to remedy and usually associated with permanent sterility.

From the preceding discussion it would be reasonable to conclude that the number of factors responsible for alteration of normal reproductive capacities is formidable. That aside from the obstructive lesions of the conduit system amenable to surgery, the rare case of hypothyroidism rehabilitated by thyroid extract and the subclinical nutritional deficiencies anticipated before irreparable damage, we have little to offer the barren patient but consolation and advice on adoption. Actually, such is not the case, for there are still a large number of sterility problems responsive to investigation and therapy, whose fault lies not so much in gross abnormality of function, but in simple errors of habit, or technic easily detected and remedied. This statement is founded on the premise that fertility is really a relative matter, even in the normal individual. Some men main-

tain a high degree of fertility during the entire period of their active sexual life, others swing on the pendulum of fecundity, at one time being within normal limits, and at others in the sub-fertile range; while still a third group remain in the sub-fertile stratum for most of their adult life. The marital habits of these three groups, especially as regards the frequency of intercourse and the timing of coitus to coincide with the expected date of ovulation will often determine their conceptional success.

In general it may be said that the average sexual outlet of the individual for any given period of time varies according to certain biologic factors such as age, metabolic activity, nutritional status and hereditary pattern, as well as the psychological conditioning that may have occurred during the period of growth. These are modified further by the environmental or social factors of the particular segment of society in which the individual lives. The variation in any group chosen at random is remarkably high, but Kinsey, in an extensive survey of the sexual habits of the male, states that at least 75 per cent of the population fall in the range of frequency of one to six times per week during their period of sexual activity. Nearly a quarter of the population fall in the extremes, varying from 20 to 30 times a week to as little as two or three times a year. Such information serves to emphasize the need for investigation of the habits of the couple under consideration.

The highly fertile male may be classified as one whose total ejaculate contains 185 million actively motile sperm, the relatively fertile male from 80 to 185 million and the subfertile male from 1 to 80 million. With this in mind, it would appear of interest to inquire as to the effect of frequent ejaculation on the components of the semen of these three groups. This is demonstrated in the following chart from Dr. E. J. Farris of the Wistar Institute of Biology and Anatomy.

It is obvious that even the highly fertile male on daily ejaculation, soon approaches the zone of sub-fertility, the relatively fertile male quickly passes into the area of infertility on his second day of ejaculation, while the sub-fertile male alters his already poor count but little. This work is complemented by that of Hotchkiss who has demonstrated a marked drop in volume and cell count on repeated ejaculation, whereas the grade of motility and incidence of morphological types of spermatozoa were relatively unchanged. He reported return of normal components after 72 hours of abstinence, while Farris has found that at least four to five days lapse is optimum in his

ACTIVE SPERM IN RELATION TO FERTILITY
3 CONSECUTIVE DAYS

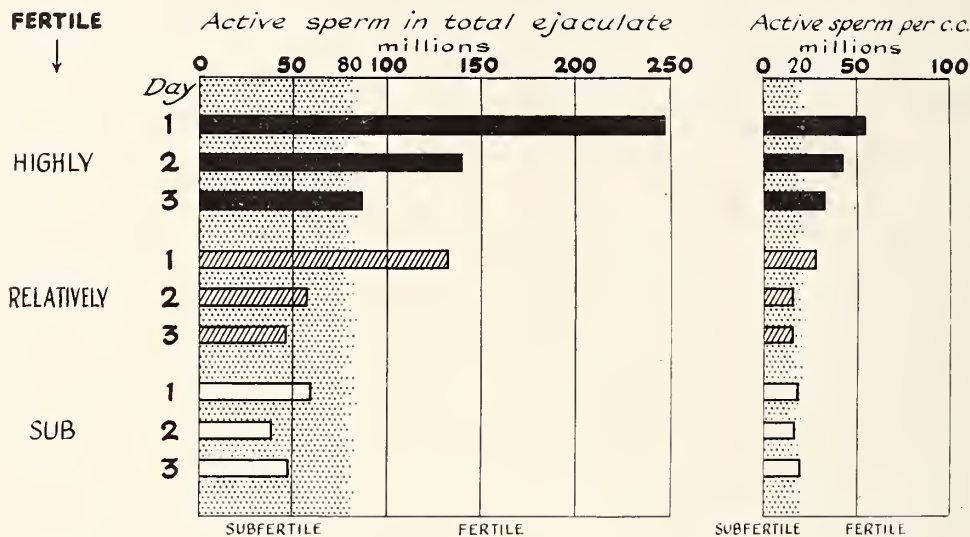


Figure 1. The effects of emissions at daily intervals for three consecutive days in three groups of men of different degrees of fertility. (From E. J. Farris, Wistar Institute of Anatomy & Biology.)

group of young donors studied for purposes of artificial insemination.

The implications inherent in these results provide the basic requisites for instruction of not only barren couples, but for those merely seeking information of the best pattern of sexual habit for purposes of conception. This leads us to the next important consideration, the determination of ovulatory time.

There is still considerable variation in the nature of instruction given young couples seeking the advice of the physician in this regard. In the past many practitioners counselled the female with the 28 day cycle to the effect that ovulation was most likely to occur on the fourteenth day of her cycle, and that intercourse two days before and two days after would offer the best chance of conception. The fallacy of such advice is apparent when one considers the effect of four days of ejaculation on the relatively fertile male, not to mention the variations that are known to occur in the time of ovulation. Should ovulation actually occur on the stated day, it is more than likely that the relatively fertile male would show a sperm count incompatible with fertilization, and in some respects the effort expended would have been to no avail. It is obvious that under such circumstances the accurate determination of ovulation is of paramount importance. Farris has recently reported a statistical study of a series

of 208 tests on 46 individuals using a technic involving the hypodermic injection of urine from the patient into a rat, and then noting the effect on the rat's ovary. In the presence of ovulation a characteristic hyperemia is observed, which in their hands has proven a highly accurate test of

100 CONCEPTIONS
in 100 couples previously sterile
Average cycles 24-37 days

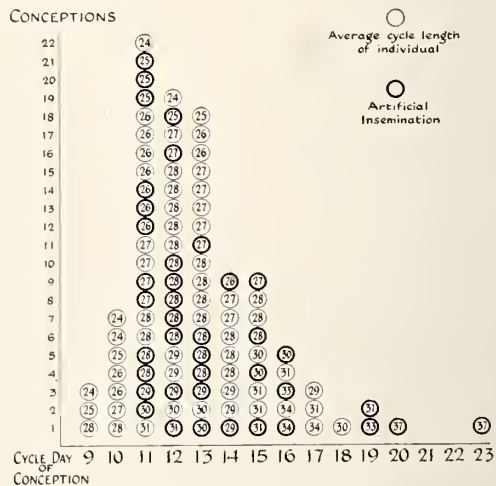


Figure 2. The cyclic days of conception in 100 women previously sterile. (From E. J. Farris, Wistar Institute of Anatomy & Biology.)

ovulatory activity within a matter of hours after its occurrence. This method requires considerable experience and laboratory control, not yet available in the average clinic. Nevertheless his studies have provided some interesting information regarding the average time of ovulation. Of the 46 women studied with a total of 50 conceptions, ovulation occurred from the sixth to the twentieth cycle day inclusive, and 54 per cent of these occurred between days eleven and thirteen inclusive. This is illustrated in a similar study of 100 conceptions in the accompanying chart from Dr. Farris.

Even in the absence then of controlled laboratory methods over 50 per cent of the patients seen will have ovulation between the eleventh and thirteenth day of their cycle, and intercourse directed during that period will be most likely to succeed. Further aid may be offered by records of the basal temperature and endometrial biopsy in the female. For the relatively fertile or subfertile patient such information may spell the difference between success and failure. Additional benefit may be gained in the sub-fertile male by advising repeated ejaculation in succession during the same act of intercourse. Although both specimens may be inadequate singly, together they may be additive as to count and volume and provide a suitable ejaculate for the purposes of fertilization.

The zone of relative fertility and subfertility encompasses a considerable proportion of the population, more so than is commonly realized. Not all of these individuals are barren. The mating of a highly fertile partner with a relatively fertile one may conceivably result in a desirable number of pregnancies over a period of time, without the aid of the above information, but knowing it the physician is armed with an effective method of management should they seek his advice. The intelligent use of this information, coupled with a definite effort to rule out the contributing factors of occupations or mental fatigue, dietary insufficiency and possible borderline endocrine dysfunction will often lead to gratifying results in a large number of patients. The same may be said of even the subfertile group, unfortunately the mating of a subfertile male and subfertile female often results in resistant barrenness, that defies the above measures, and after a suitable trial, or in the face of obvious intractable abnormality, adoption may best be recommended. Should one partner be at fault and the other fertile, artificial insemination may be considered as long as both physician and patient are cognizant of its moral, religious and legal complications.

THE MEDICAL EXPERT WITNESS

Ernest M. Hammes, M.D.,* St. Paul, Minn.

It is indeed a great honor and privilege to be asked to participate in this symposium—The Doctor and the Law. At the same time, it gives me an opportunity to discuss with you the Minnesota plan, which has definitely elevated medical expert testimony in our courts to a higher ethical level.

Expert witness testimony was first given judicial attention in the Courts of England, in 1553, by Justice Saunders when he said, "If matters arise in our law which concern other sciences or faculties, we commonly apply for the aid of that science or faculty which it concerns, which is an honorable and commendable thing in our law, for thereby, it appears that we do not despise all other sciences but our own but we approve of them and encourage them as things worthy of commendation."

Gradually the need for expert testimony in every field became recognized by the courts of law in order to secure scientific information and assist in arriving at fair and just decisions. In the earlier decades of this century, attention was directed more especially toward cases appearing in our courts, both civil and criminal, in which the question of sanity was raised. In cases of homicide, pleas of insanity were frequently introduced. Because of the conflicting testimony given by the medical experts in neuropsychiatry, for both prosecution and defense, these physicians frequently became subject to considerable ridicule and criticism, justly or otherwise, by the daily press and even by the medical profession.

Whenever we hear of "the battle of experts," it invariably involves an important will litigation, a murder trial or a criminal case in which the question of insanity or mental competency is the outstanding issue. One might cite the Thaw trial in New York, the Hickman case in California, or the more recent Loeb-Leopold trial in Chicago. Although the expert testimony in some of these cases was questionable, the fact remains that established legal tests for psychiatric disorders, for criminal responsibility or for mental competency differ greatly from well-recognized and sound medical opinions. In Minnesota an individual (1) who has sufficient mental capacity to understand in a general way the extent of his property, (2) who knows the persons who naturally have a claim on his bounty and (3) who is able to keep one and two persons in his mind long enough to

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form a rational judgment concerning them, can execute a will according to law, even while he is a patient in an institution for the insane. The writer, while testifying in court, stated that the person under investigation was normal from the legal standpoint, and on cross-examination had to admit that she had an intelligence quotient of 70, and was feeble-minded. In criminal trials, the problem is frequently more complicated, the violence done to justice more impressive, and the individual's liberty or even his life may depend on the testimony of the expert. The knowledge of right and wrong test, the irresistible impulse and the mental responsibility are important factors that are involved. Here again the legal conception is at great variance with psychiatric opinion. Prominent psychiatrists like William White and legal minds like Benjamin Cardozo have pointed out the unscientific character of these tests. Frequently well-trained physicians have refused to participate in criminal trials because medical opinions do not conform with well-established legal facts.

The American Psychiatric Association, in conjunction with the American Bar Association and the National Crime Commission, on several occasions have attempted to bring about some clarification in this psychiatric-legal chaos and also to regulate expert testimony, but without much appreciable success.

The most progressive and effective law aimed at the abuse of psychiatric expert testimony is the so-called "Briggs Law" of Massachusetts, which has been in effect since 1921. Under this procedure, all persons indicted for a capital offense and all persons indicted or bound over to the grand jury, who have previously been convicted of a felony or indicted more than once for any offense, are reported to the Department of Mental Diseases of Massachusetts for examination. The psychiatric examiners are selected by an official medical body. The examination is usually made before the trial and the report is accessible to the Court, the District Attorney, the counsel for the defendant and the probation officer. In the 14 year period ending in 1935, Dr. Winfred Overholser reported that 5,159 individuals were examined, of whom 760, or 14.7 per cent, were found to be definitely insane, were recommended for observation in a mental hospital or were mentally defective or suffered from other mental abnormalities.

California, Ohio, Rhode Island and Wisconsin have statutes that provide that in criminal cases the court may appoint experts to investigate and to testify as to the sanity of the defendant at the time of the commission of the alleged offense. In

an attempt to eliminate the evils of bias and partisanship in expert testimony, the National Conference of Commissioners on Uniform State Laws in 1937 prepared the Uniform Expert Testimony Act. This act authorizes the Court to select and summon expert witnesses in civil and criminal cases; it provides for conferences and joint reports of these witnesses, for their personal examination of the subject matter of the controversy and for the removal of the objectionable features in the hypothetical question. Undoubtedly these measures have in part, at least, lessened some of the evils of expert testimony and in many instances have eliminated the "battle of experts."

With the introduction of the automobile and other means of rapid transportation, great numbers of accidents have occurred, with resultant personal injury suits. With the enactment of the Employers Liability Law, many of the industrial accidents and diseases ultimately come before the Industrial Commission for a final legal decision. With these new developments, physicians in every field of medicine are frequently called upon to give testimony in court, and the opinion of the competent medical expert in every specialty is often essential to clarify complicated medicolegal problems.

The expert medical witness should be thoroughly interrogated as to his education, postgraduate work and medical experience to qualify him properly as a specialist in his chosen field, not for the purpose of impressing the jury as is frequently done, but to lay a proper foundation for the evaluation of his opinion. In one of the cases that was reviewed by our Medical Testimony Committee, a roentgenologist testified in court that an injury to the foot, without any infection, was the causative or aggravating factor in developing a degenerative cerebral disorder, the first symptoms of which manifested themselves nine weeks after the accident. This opinion may have been based on ignorance, but undoubtedly influenced the jury. In another case, a physician with a meager knowledge of x-ray films testified in court that a certain line in a skull x-ray was a fracture, while three expert roentgenologists testified that it was a normal finding. The jury awarded \$5,000 in favor of the plaintiff. Many similar cases could be cited. The fault undoubtedly lies with the court and attorneys in not properly qualifying the physician.

The expert medical witness should limit his testimony as much as possible to his own specialty. His opinion will be more valuable and impressive, and he will avoid many embarrassing situations on cross-examination. It is much simpler to an-

swer a question by saying, "I do not know," than to have our limited knowledge magnified on cross-examination by an alert attorney.

His testimony should be concise and clear. He should explain his technical terms and serve as an instructor to the court and the jury, realizing that he is talking to a group of lay people. His attitude should be impartial and not as an advocate or participant for either side. He should not lend himself either to the minimization or exaggeration of injuries or permanent disabilities. With this proper attitude, there will be no fear or apprehension about any cross-examination.

Some years ago we had a rather amusing experience in one of our courts. A physician had been subpoenaed as a witness in an injury case. After he had taken the witness stand, and before either attorney had an opportunity to ask a question, the physician said, "Before I answer any questions I want to know what side I am testifying for."

Unfortunately physicians at times manifest this attitude when they appear in court as a medical witness for the sole purpose of assisting the attorney in obtaining a satisfactory and substantial verdict. This is due either to ignorance, prejudice, bias, personal interest or absolute dishonesty. Repeated attempts have been made by medical and bar associations to correct these abuses with little result.

Legislative measures have been suggested to regulate expert testimony. In 1926 the House of Delegates of the American Medical Association adopted certain resolutions recognizing the urgent need for such remedial legislation and such change in court procedure as will correct the abuse of expert opinion evidence and approving the efforts of the various bar and medical associations. The House of Delegates also endorsed the principle that in civil and criminal cases the court may appoint expert medical witnesses who may furnish a written report and who shall be paid out of public funds. The main objection to this proposed resolution was that the jury frequently would be confronted by three conflicting opinions instead of two as under our present system. Furthermore, grave injustice might be done if the jury were influenced by the fact that the court (supposedly non-partisan) had appointed one group of experts and therefore gave more consideration to that group than to either of the other groups.

In a memorandum relative to "Legislation proposed for the better regulation of expert testimony," Dr. William C. Woodward, Director of the Bureau of Legal Medicine and Legislation, stated that the matter of expert testimony continues to arouse interest but that the interest

aroused ends in discussion. He places the entire responsibility of our present situation on the lawyer who introduces an incompetent or dishonest expert witness and on the judge who permits any person to testify as an expert witness, without having definitely determined, either from his own knowledge or through evidence offered, that the proffered witness has the proper qualifications. He furthermore states "No one ever saw an ignorant, incompetent or crooked expert clamoring at the door of the courtroom for admission to the witness stand as a witness. The lawyers put them there." Woodward suggests that "the first remedy that should be applied, then, to correct existing conditions, is to compel judges to pass properly on the qualifications of proffered expert witnesses and to compel lawyers to refrain from proffering as expert witnesses persons who are not experts or who are venal."* Although this is an excellent suggestion and would develop an ideal situation, it is my opinion that human nature even in lawyers is such that it will not prove successful or practical.

The Minnesota State Medical Association has attempted to approach this problem from an entirely different angle. We in Minnesota are somewhat in accord with Lloyd Paul Stryker, who said in his concluding remarks that "Legislation of the kind proposed might help, but the real remedy for existing evils lies in the better development of conscience on the part of those who now, for pay, express opinions in which they do not honestly believe, or who for hire advance unfounded or disproven theories in an effort to thwart justice. This remedy—the development of conscience—could best be made effective through the suggestion of Judge Willard Bartlett: the adoption of an amendment to the doctors' principles of ethical conduct, specifically and in clear terms condemning as unprofessional those practices which our enlightened lay and scientific opinion agree in condemning as improper and unworthy."† If this remedy were utilized by both the legal and the medical professions, justice would indeed be well served in the courts of this country.

Ten years ago a joint meeting of members of the Minnesota Judicial Council and the Minnesota State Medical Association was held to discuss this problem of unethical medical testimony from the legal and medical standpoints. Various plans were discussed, and it was felt that attempted legislative measures had improved but not solved the problem. A committee was appointed by the President of the Minnesota State Medical Asso-

*Journal of the American Medical Association, October 13, 1932.
†New York State Journal of Medicine, March 1928.

cation to study and attempt to improve this serious situation.

This committee was empowered to review those court cases in which medical testimony appeared either to the Court, to the attorneys, or to some physicians to have been so contradictory as to indicate that one or more of the medical witnesses seemed to be consciously deviating from the truth. The medical testimony under scrutiny was not to be confined to any particular type of legislation nor to any particular court. It was to include all civil, criminal and personal injury cases and all cases tried before the Industrial Commission. The Committee on Medical Testimony consisted of six members representing the various sections of the state. It is interesting to note that five of the six members are still serving on this committee, the other physician having moved to another state. At the first meeting the following policy was set forth:

1. That the judge or attorney or accusing physician must submit to the committee in writing a brief statement giving the name of the physician to be investigated and also the name of the principals of the trial.

2. That a transcript of the entire testimony of the case in question must be obtained and placed at the disposal of the committee. Only by this method will the committee be able to obtain a true knowledge of all the facts and arrive at an unbiased and just opinion.

3. That members of the State Association who are specialists in the various fields of medicine must be willing to appear before the committee when requested to do so and express their opinion regarding the testimony in question.

Repeated complaints about medical testimony were reported to the members of the committee, but the accusing physicians or attorneys were not willing to submit them in writing because of possible embarrassment. To obviate this, the committee decided, in 1943, to keep the name of the accusing individual confidential. This improved the situation somewhat, but it was decided later and announced at the meeting of the House of Delegates in 1944, that only the chairman of the committee would know who sent in the complaint.

The expense incurred in obtaining a transcript of the entire testimony in any court, or in the Industrial Commission, is paid for by the State Medical Association.

The committee has deemed it advisable to ask three outstanding specialists in the question involved to assist the committee in the investigation of a case. Their willing cooperation, sound judgment and unbiased advice have lessened materially the responsibilities of the committee. To

avoid any possible legal complications we also have the assistance of the attorney of the State Medical Association.

Undoubtedly you all realize how serious it is to accuse any physician of unethical conduct, especially perjury and how embarrassing to investigate the conduct of one of your colleagues. In the spirit of fairness, all investigations are confidential with the committee, except those which are referred to the State Board of Medical Examiners. Our legal counsel informed us that if our investigations were publicized, there was a remote danger of a libel or slander suit.

There are approximately 200 physicians licensed in the State of Minnesota who do not belong to the Minnesota State Medical Association. Neither the Association nor our committee has any jurisdiction over them. If any complaint regarding their medical testimony is referred to our committee, we make a thorough investigation. The complete report is then submitted to the Minnesota State Board of Medical Examiners. This Board has judiciary power and for just cause can suspend or revoke the license of any physician who is permitted to practice medicine in the state.

Our committee has no disciplinary or judiciary power. In cases where the testimony was a mildly questionable character, perhaps due to ignorance or overenthusiasm, the committee deemed it advisable to have one of its members discuss the problem with the accused physician and point out his delinquencies. This has proven satisfactory in every case but one. In cases of a flagrant character, our committee submits a complete report, with the transcript, to the State Board of Medical Examiners. As I stated before, this board has judiciary power and can suspend or revoke the offending physician's license. Unfortunately, or otherwise, the duty of reviewing the transcript of the testimony in every case has fallen on the shoulders of the chairman of the committee. The shortest transcript of testimony reviewed was 108 pages and the longest 992. The testimony of every witness in the particular case investigated is carefully studied because of the possibility that there might be some evidence somewhere in the case that would justify the opinion rendered by the medical expert. The important points are outlined and presented to the entire committee in conjunction with three specialists in the particular field under consideration.

I want to pay tribute to the members of our Medical Testimony Committee. During the ten years of service there have been only two occasions when one member was absent, in spite of the fact that several of them live over 200 miles from the meeting. On only one occasion did a

specialist refuse to assist the committee: his reason was that he did not know enough about the subject under discussion.

When this program was inaugurated, it was suggested that this plan should be given state-wide publicity. Articles were published in the leading newspapers and news services throughout the state. A detailed outline of this new undertaking was sent to every member of the Minnesota State Medical Association, to every judge in the courts and to the state industrial commission. The two national organizations which profit most by fair and unbiased medical testimony in our courts have been vitally interested, namely the Association of Railway Claim Agents and the American Association of Insurance Companies. Both of these groups have given our organization nationwide publicity by publishing a four page article, "Abuses of Medical Testimony—The Minnesota Experiment," in their respective national journals. During these ten years, requests for information regarding the Minnesota Plan have been received from 12 state medical associations, six state bar associations and from the Workmen's Compensation Board of the American Association of Industrial Physicians and Surgeons. The Federal judges of the Sixth District, including Ohio, Michigan, Kentucky, Tennessee and West Virginia, placed the Minnesota Plan for discussion on their annual program in 1946. By invitation to members of our committee, the Minnesota Plan was presented before the Congress of Industrial Health in Chicago in 1943 and before the American Medical Association in Atlantic City in 1947. Another invitation was received from the International Association of the Industrial Commission to discuss this subject at their meeting in Massachusetts in November 1947, but unfortunately no member of the committee was available. In October, 1948, I had the privilege of presenting the Minnesota Plan at a round table discussion, "The Doctor in Court," at a meeting of the Mid-West Clinical Society at Omaha, Nebr.

The Minnesota State Medical Association feels gratified about the definite interest that is manifested throughout the country by both the medical and legal professions. We believe that we have made definite progress in Minnesota and we are pleased that other state organizations are taking measures to improve medical testimony which, in many instances, has been a disgrace and detriment to the entire medical profession.

In a letter received from a secretary of one of the state medical associations, he states, "The situation in our state for many years has been most lamentable." Fortunately this has not been true in Minnesota. Nevertheless, there have been

some members who apparently believed that it was their duty to do everything possible to assist the attorney in bringing about a satisfactory and substantial verdict in their case. The Minnesota State Medical Association felt that these physicians required some guidance and education and, if necessary, disciplinary measures to elevate medical testimony in our courts to the highest level.

There are approximately 3,200 physicians, practicing in Minnesota, who are members of the State Association. During the ten years that our committee has functioned, we have investigated 22 cases. Only five of these were of sufficient gravity to be referred to the State Board of Medical Examiners, where definite disciplinary measures were instituted. The Minnesota State Medical Association feels justly proud of this record.

In 12 cases, the committee felt that the questionable testimony was due either to overenthusiasm or insufficient knowledge of the medical or surgical problem involved. In these cases, a member of the committee residing in the same district as the physician in question interviewed him. He was advised about the investigation and the decision of the committee and also of the opinion of the three associated specialists. Definite recommendations and a note of warning were given him. This was most satisfactory in eleven cases. In the twelfth case, a further complaint was received by the committee. This was investigated thoroughly. A complete report of our findings in this and the previous case, along with a transcript of the testimony in both cases, was submitted to the State Board of Medical Examiners for further disciplinary action. In the five other cases, the evidence given by other witnesses and the result of the examinations justified the testimony given by the physician. Those in question were not even advised that investigations had been made.

As you well know, there are cases where the opinion in medical testimony may be diametrically opposite and still honest and sincere. This is particularly true in the psychiatric field where established legal tests for psychiatric disorders, for criminal responsibility or for mental competency differ greatly from well recognized and sound medical opinions.

The Council of the Minnesota State Medical Association felt that the existence of a Medical Testimony Committee would have a beneficial influence on the few members of our association who required some guidance and supervision, provided the committee continued to be sufficiently active and had the full cooperation of the medical profession, the judges of the various courts and

the attorneys. Several judges have informed me that there has been a definite improvement in the quality and accuracy of the medical testimony in their courts during the past few years. Two attorneys advised me that the physician whom they frequently employed and who was very liberal in his testimony has been reluctant to appear in court because of the activities of our Medical Testimony Committee.

The Minnesota State and the local Bar Associations have committees to which our committee can refer any questionable case concerning an attorney for investigation and disciplinary action. The judges of the Supreme and District Courts, as well as the members of the Bar Association, have been most cooperative, and our committee greatly appreciates their assistance.

As I have told our House of Delegates repeatedly, unless there is continued and concrete cooperation, one has to assume that the members of our State Medical and State Bar Associations, as well as the Medical Testimony Committee, approve of such questionable expert medical testimony.

Our committee does not feel that we have solved the problem, but the results of our ten years' activity definitely indicate that the situation in our state has been improved materially.

Dr. H. W. Smith,¹ in an address, "The Psychiatrist as a Witness in Civil and Criminal Cases," presented at the Omaha Meeting, "The Doctor in Court," in October, 1948, stated: "Can these problems be solved by trying to brush up the respectability of medical testimony by a censorship process, such as the Minnesota Plan involves, or by leaving it to the Court to appoint 'impartial physicians' under empowering statutes or rules of court?"

"I submit that all such innovations are mere 'midway' reforms, not to be scoffed at, but not to be accepted as definitive treatment of a deep-seated and ramifying disease. Current thinking on the problem suffers from temptations to oversimplify it and to suppose that superficial, symptomatic treatment will suffice."

He suggested that issues of scientific import should be referred by the trial judge to an impartial expert referee drawn from a panel of experts, whose range of competency has been certified by the State Medical Society; that this referee should be empowered by statute to subpoena witnesses, to hear evidence, order further examinations, give the attorneys an opportunity to examine and cross-examine and order any further scientific investigations, according to law. The referee's findings of fact, once confirmed, would be conclusive as to the scientific aspect of the case,

while the jury's verdict would be binding as to all other fact issues.

F. K. Beutel,² Dean of the University of Nebraska College of Law, in another address at this same meeting, stated: "It is not necessary here to recount the numerous defects in our present system. Drs. Hawkinson and Hammes have touched on these in their addresses, and they also suggested some changes, with which I thoroughly agree. However, it is my feeling that these changes do not get at the root of our difficulty.

"There are two main defects in our present court system that must be remedied before any scientific man can hope to be at home in the trial of a lawsuit. First, the substantive law itself must be changed, the second, there must be a basic reform in the procedure of the courts."

I am fully in accord with Dr. Smith's and Mr. Beutel's suggestions and consider them very valuable and imperative. Judging from past achievements, in attempting to solve this problem, it would seem that passage of such laws is in the distant future. The Minnesota State Medical Association felt that immediate action was necessary.

We feel justified in the action we have taken for, since the establishment of our Medical Testimony Committee, there has been a marked improvement in the quality and accuracy of the medical testimony in our courts. Our activities, too, have stimulated renewed interest in this vital problem elsewhere in the United States and reports from other state societies have borne out our original and continuing belief in the Minnesota Plan.

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THE DOCTOR IN COURT

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It is a sincere pleasure to have this opportunity of addressing the Iowa State Medical Society, but frankness compels me to add that this pleasure is somewhat dimmed by the realization that my topic concerns a situation which the average doctor thoroughly dislikes. Nevertheless, the doctor has gone to court for at least 700 years as an expert witness in steadily increasing numbers so that, distasteful or otherwise, it has become a duty linked with his profession that must be manfully, if not happily, faced.

I think perhaps it would be putting the cart before the horse if we looked at the doctor in court

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before we got him there, and so briefly I would like to touch on this collateral, but very practical, problem.

From my observation, most doctors do not want to go to court, and this is most understandable. Giving testimony is completely removed from diagnosis and treatment, and is regarded by many doctors as an imposition on their time and earning power. Some dread a public appearance. Many doctors also, through experience or newspaper reading, have become acquainted with the brow-beating and unfair tactics of a few courtroom lawyers. For any or all of these reasons, competent medical testimony is on occasion quite difficult to obtain. I know you will agree that this should not be.

In suits involving personal injury, disease or soundness of mind, the testimony of a medical expert is indispensable, and a fact prone to be overlooked by the profession is that a doctor, like any other witness, can be subpoenaed and required to give his testimony at a statutory rate of \$6.00 per day, regardless of his desire or prior commitments.

This power, however, is seldom exercised. The usual procedure is that the plaintiff or defendant employs the doctor to make an examination before trial and arranges his compensation for time spent in the court room. Most lawyers and courts make every effort to accommodate the court room appearance to the doctor's schedule. Being indispensable to the administration of justice in certain types of litigation, a doctor should, therefore, regard court testimony as a professional duty.

An injured plaintiff, for example, is deprived of a real and substantial right if the doctor he selected for treatment refuses to cooperate in the giving of testimony. He may obtain other medical testimony, but the absence of his own physician places him in an embarrassing position and jeopardizes his legal rights.

How does the doctor perform in the courtroom? By and large I think he measures up to every reasonable expectation. It so happens that the bulk of my practice has been and is the trial of personal injury cases, representing the plaintiff and defendant in about equal degree. This type of case invariably requires medical testimony, and it is my experience that a competent doctor who stays within his field or specialty, and states his findings truthfully and objectively, without favor to any party, has little to fear in a courtroom. True he may, on occasion, be proven inaccurate or wrong like any witness, but he will never be ridiculed or humiliated.

The lawyer who cross examines has obtained his knowledge of the injury or disease from read-

ing medical books and consulting other doctors. He cannot pit his knowledge of medicine against a competent doctor. He can only hope to discredit him if the doctor exaggerates, expresses an opinion without adequate examination or gives his opinion in a field of medicine with which he is not familiar, either by training or experience.

True, medicine is not an exact science. There are a few situations where equally competent and honest doctors will arrive at diametrically opposite conclusions. This is particularly true in the field of mental disorders and is often a source of confusion among jurors. The average juror tends to regard the medical conclusion of the doctor as a mathematical verity. He expects other witnesses to disagree, but not the doctors. In this unfortunate situation the jury, under our system of jurisprudence, is called upon, without medical knowledge of any character, to evaluate the professional credibility of the doctors and select the true opinion.

This unhappy situation prevails in most of the states. Many reforms have been proposed, and a few have been adopted. Massachusetts, for example, enacted the Briggs Law in 1921. In certain cases of mental capacity the case is reported to the department for medical disease where examiners selected by a medical organization make an examination. Maine, Colorado, New York and a few other states have somewhat similar laws, but the weakness of this legislation is the fact that it still leaves the finding of ultimate facts in the hands of the jury or court. In other words, the findings of these experts can be disregarded.

Perhaps the most practical solution would be the adoption of a plan whereby scientific facts are found and determined by a panel of experts. It is my understanding that France, Italy and Germany employ this method. The panel consists of impartial experts in the branch of medicine involved, and the panel reports its majority findings to the court. If accepted by the court, which almost invariably is done, this finding becomes the law of the case, and the jury must accept same as a verity. This system eliminates expert employment by each litigant and insures an impartial qualified appraisal of the subject at hand.

I fear, however, these suggested reforms lead me from the assigned topic and have little relevancy to the subject at hand, for we are looking at the doctor in court under trial procedure as it now exists and not as it should exist.

I have said the doctor measures up to all reasonable expectations as an expert witness. The doctor, however, in keeping with other mortals,

has his imperfections, and these it will now be my uncomfortable duty to discuss.

The courtroom is a battle arena. Each litigant has hired an attorney to present, in the most favorable manner, his side of the controversy. A trial attorney is by temperament, training and experience an advocate. He is hired to win. He is never and, by the very nature of his employment, cannot be impartial. I think we will all agree that the doctor occupies a completely different role. Regardless of who employed him to make an examination, his true function is that of an impartial scientific teacher. He is not and should never attempt to be an advocate.

He has no right, professionally or morally, to mentally or sympathetically identify himself with a party litigant and thus unconsciously perhaps exaggerate or depreciate injuries and findings. Unfortunately a few doctors forget their scientific objectivity and permit themselves to become thus identified with one of the litigants. At that precise moment his value to the court and the administration of justice is at an end.

Why do some doctors do this? The question is not easy to answer. A litigant requiring medical testimony must and should, of course, compensate the doctor for his examination and the time he spends in court. A few doctors mistakenly regard this as an ordinary employer-employee arrangement and loyally follow the old adage, "He whose bread I eat, his song I sing."

If his medical specialty is of such nature that it requires numerous court appearances, this individual will sooner or later become typed as a "doctor for hire." If he consistently gives liberal estimates of disability, plaintiff's lawyers will seek him out to examine their clients. If, on the other hand, he gives conservative estimates of disability, defense lawyers will employ him to examine the plaintiff, and thus he becomes known and typed among courts and lawyers as an expert having definite proclivities.

In discussing this particular expert we must not overlook the doctor who makes the same identical mistake, but for entirely different reasons. This type of doctor feels no compulsion to give favorable testimony to the party whom he has treated or examined. He has no inherent characteristics or sympathies that color his scientific thinking and yet before he leaves the stand he has pointed up his testimony and said things he does not really believe.

This unfortunate doctor misunderstood the purpose and art of cross examination. The calling attorney questions him on direct with great kindness and deference. His eminent qualifications are spread before the jury. His conclusions

are accepted as a verity. The judge and jury seem to hang on every word, and it is a very comfortable situation.

Suddenly the entire atmosphere changes. It is no longer completely friendly. He is being cross examined. It may be politely but firmly suggested that he has not treated nor observed many cases involving the injury or disease in suit. He may be questioned about certain authorities who disagree with his conclusions. He may be asked if his conclusions are absolute or simply an approximation—and could not they be wrong? He may be asked a hypothetical question which should cause no trouble but will if he attempts to concern himself with its purpose. He regards this probing and testing as an assault upon his professional knowledge or integrity. He becomes irritated and in self defense strikes back by becoming reckless and positive on those conclusions which he deems injurious to the cause of the cross examiner, regardless of their complete accuracy. Thus he enters the courtroom an impartial teacher of science, and leaves it a heated partisan.

Expert testimony, of course, is more than a recitation of scientific facts and conclusions. Like every act, it has its own skill and technic. An ordinary witness can testify only to what he sees or hears. He cannot state any opinion or conclusion. The expert, on the other hand, is given a wide latitude. He gives conclusions and opinions, nay even dissertations on the subject at hand. He is a teacher called to instruct the court and jury on a scientific matter on which they presumably and almost invariably have no knowledge.

To be effective, as a teacher, he must translate medical terms into the layman's language. In explaining an injury or bodily process he must use simple everyday illustrations. If he does not do this, his testimony is valueless, regardless of its accuracy. Too often the doctor seems to feel that his knowledge and skill is on trial and unconsciously, perhaps, uses scientific terminology which would be eminently fitting in a medical clinic, but which leave a jury and court in a state of complete bewilderment. Certain members of the legal profession are accessories to this unfortunate occurrence. It is a common observation that men are inclined to take excessive pride in some accomplishment unconnected with their trade or true abilities, as witness the baseball pitcher who sidetracks discussion of his latest mound victory in order to talk about the base hit he got three weeks ago.

Thus certain lawyers having boned up on the injury in suit through text books and their own expert, use these newly memorized medical terms so fluently and learnedly in their examination that

the poor doctor feels called upon to use even more learned language, simply to show he is no dullard and knows exactly what the lawyer is talking about. It goes without saying that this scintillating exchange of erudition may fascinate, but never instruct, those mortals unfortunate enough to be present.

From my observation, the most dangerous and onerous burden placed upon the medical witness is the answering of the hypothetical question. This question is usually prepared by the attorney in writing prior to trial, or during the course thereof, and asks the doctor to assume the truth of certain stated facts and to then give his conclusion and opinion thereon. On direct examination the doctor ordinarily has little difficulty. The calling attorney has submitted the question to him in writing in advance of his testimony, and he has had ample time to formulate his answer. His difficulty arises when an hypothetical question is used on cross examination. Law suits usually hinge on one or two disputed facts. The cross examiner's hypothetical question will often be identical with the direct, but with the addition of a disputed fact which is sufficient to change the original opinion.

The similarity of the question and a natural tendency to support a position once taken may cause the doctor to reaffirm his original opinion without proper evaluation of the fact change. He is then in trouble. The cross examiner, if alert, will frame additional hypotheticals each a little stronger than the last, with the expectation and hope that the doctor will steadfastly support his original conclusion. If the doctor does this, he inevitably reaches a position which no expert can support and is thus discredited.

Conclusion

I believe everything of value in these remarks can be summed up as follows:

1. A doctor should regard medical testimony as a duty.
2. A doctor should testify only on those matters for which his training and experience qualify him.
3. A doctor should be as fair and impartial as the trial judge, and should never favor a litigant.
4. A doctor should understand the necessity and purpose of cross examination and never permit hostility to influence his answers.
5. And last but certainly not least, if a doctor does not know the answer to a given question, he should frankly say so.

ADVANCES IN THORACIC SURGERY WITH SPECIAL REFERENCE TO INDICATIONS FOR PULMO- NARY RESECTION*

by

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Although surgery of the chest was labeled as such over a century ago, development in this field has taken place largely during the past two decades. During this short period progress has been rapid and continuous, and at the present time thoracic surgery enjoys a position second to that of no other branch of surgery.

During the first half of its century of existence, accomplishments in this field were largely limited to the drainage of empyemas and the management of infections, wounds and tumors of the chest wall. Mediastinal cysts and abscesses of the lung had been drained at considerable risk. The first comprehensive book on thoracic surgery was published in 1896 by Stephen Paget,¹ one of the foremost men in this field at the time. Less than ten of the 462 pages of his book dealt with intrathoracic malignant tumors, and these were mainly case reports. Paget predicted that little further progress in surgery of the thorax could be expected and he stated: "It is sometimes said that surgeons fifty years hence will think as little of our results as we think of the methods of fifty years ago. So far as regards the surgery of the chest, this is utterly untrue. Fifty years ago it had risen above the horizon. It is now nearly at its zenith." Subsequent developments have shown that Paget could not have been further from the truth.

Several factors played a major role in the delayed advancement in the surgical management of lesions of the thoracic viscera. One of the most prominent was the lack of a clear understanding of the altered cardiorespiratory function which occurred during and following operations within the chest. The ancient Greeks were cognizant of the dangers attending an open pneumothorax. However, they understood little of the underlying principles on which they were based. As early as the sixteenth century, however, some knowledge of the influence of altered intrathoracic pressures on cardiorespiratory function was gained from animal experimentation.

The anatomist at Padua, Andreas Vesalius,² demonstrated the dangers of an open pneumothorax to his students. He exposed the transparent parietal pleura, through which the move-

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ments of the lung could be seen. When this membrane was broken, the lung would fall away from the side wall but the motion of the chest remained unchanged. If the other pleural cavity was opened he stated, "the lungs are seen as the result of perforation to fall together and collapse. The cardiac motion may not be observed for long, since suffocation of the animal will come on account of the collapse of the lungs. In order to restore the life of the animal, an opening is made in the upper part of the trachea, into which a pipe made from a reed is introduced and when it is blown into, if the lung rises up, the animal receives air. The lung should be inflated to the degree to which it occupied the thorax in life. The heart now gathers strength and its motion will change beautifully. Therefore, by maintaining repeated inflation of the lung, you may have opportunity to examine the motion of the heart both by touch and sight as much as you desire."

Thus one sees that Vesalius understood both the untoward effects on the cardiorespiratory function of open pneumothorax, with its alterations of intrathoracic pressures and a means of avoiding these harmful effects or of overcoming them once they were established. For centuries the dangers of an open pneumothorax were remembered, but the principle involved in the method of overcoming or obviating them was forgotten, or at least it was not associated with thoracic problems. It was not until World War I, that a better understanding of this problem was forthcoming. Graham's³ monumental work, while heading the empyema commission, served as a stimulus to further thought and investigation. The ideas of Vesalius were relearned and extended. Many workers^{4, 5, 6} played a part in the development of a safe and reliable method of maintaining adequate circulation and oxygenation of the tissues both during and following intrathoracic procedures. Once this was accomplished an entirely new field was open for exploration and research. Further study of methods and materials for dealing with the various tissues and organs was also needed. The lungs, mediastinum, esophagus, heart and great vessels had long presented lesions which now could be investigated. Progress was aided by improvement of diagnostic methods^{7, 8} and implements of research. Of greater importance, however, was the contribution of the anesthesiologist and the application of established surgical principles both general and those applicable to the local field.

Indications for Pulmonary Resection

The chief purpose of this presentation is to discuss one of the major accomplishments in thoracic surgery; i.e., pulmonary resection. When

one compares the favorable mortality associated with these operations today as compared to less than two decades ago, it is realized that truly phenomenal progress has been made. With the decrease in risk of the operation from 20 to 50 per cent in 1930, to below five per cent at the present time, indications for exploration and pulmonary resection have multiplied. Furthermore, the realization of the high incidence of such lesions as carcinoma of the lung has made exploration of the chest with examination of the lesion of paramount importance in making available an early diagnosis in the absence of other diagnostic information.

TABLE 1
Indications for Operation in 100 Consecutive Cases of Pulmonary Resection

- 1. Non-tuberculous Infection of the Lung.
 - a. Bronchiectasis
 - b. Infected congenital deformity of the lung.
 - c. Suppurative pneumonitis and abscess.
- 2. Tuberculous Infection of the Lung.
 - a. With associated bronchiectasis.
 - b. Unsatisfactory thoracoplasty.
 - c. Tuberculoma.
 - d. Bronchostenosis with tuberculous cavity.
- 3. Primary Lung Tumors.
 - a. Malignant.
 - b. Benign.
- 4. Indeterminate pulmonary lesions.
 - a. "Silent" (Malignant, Tuberculous, Congenital).
 - b. Bleeding (Congenital, Malignant, Tuberculous).
 - c. Suppurative (Congenital, Malignant, Foreign body).
- 5. Foreign Bodies.

For purposes of this discussion clinical material included in 100 consecutive resections of the lung has been utilized to demonstrate the many and varied indications of these operations. These have been outlined in Table 1. In spite of our advanced knowledge in this field and improvements made in diagnostic methods, an accurate diagnosis of the lesion before operation is not always possible. The term indeterminate pulmonary lesions has been given to this group. They may be silent (asymptomatic) or may cause symptoms such as bleeding or suppuration which are commonly produced by a variety of conditions. Table 2 presents

TABLE 2
Lesions Found in 100 Consecutive Cases of Pulmonary Resection

Lesion	Number	Per Cent	Operative Deaths
I. Inflammatory		34	54
a. Pyogenic			
1. Bronchiectasis	27		0
2. Lung Abscess	0		
3. Suppurative			
Pneumonitis	4		0
Middle Lobe Syndrome	3		0
b. Tuberculous		20	0
II. Neoplastic		19	
a. Malignant	17		1
b. Benign	2		0
III. Congenital		24	
a. Bronchial	20		1
b. Vascular	3		0
c. Dermoid cyst	1		0
IV. Degenerative		2	
a. Emphysematous blebs and bullae	2		0
V. Foreign Bodies	1	1	0
TOTAL	100		2

a list of the actual lesions removed in these 100 patients. Over one half of the entire group were inflammatory in nature, the non-tuberculous being most frequent with a ratio of approximately seven to four. The next most numerous lesions were congenital abnormalities which represented one fourth of the entire number. Most of these were bronchial in type and usually presented symptoms of pulmonary suppuration. Approximately one fifth of the patients had a neoplastic lesion, several of which were peripheral in type and had caused no symptoms.

Discussion of Indications for Resection and Illustrative Cases

1. *Non-tuberculous infections.* Since the development of the individual ligation technic of resection,⁹ the risk of operation due to associated complications following resections for lung abscess, pneumonitis, bronchiectasis and infected lung cysts has been markedly reduced. More severely involved cases of these conditions have been accepted for surgical therapy, and resection of variable amounts of both lungs have been successfully made. The following three cases illustrate indications for resection in this group:

Case 1. G.H., a 39 year old white female complained of a productive cough and hemoptyses of four and one half years duration. The onset was insidious without obvious etiology. Bronchoscopy revealed pus coming from the right lower lobe. The sputum was negative for tubercle bacilli. A diagnosis of non-tuberculosis lung abscess was made. X-rays showed an infiltrative process involving the upper half of the right lower lob (Figure 1 a). Chemotherapy had little effect. This lobe was removed and found to contain a diffuse non-tuberculous inflammation. Operation was followed by complete relief of symptoms. Final diagnosis was Dif-

fuse Non-Specific Suppurative Pneumonitis. This condition has been recognized only recently as a specific entity. In the chronic form so much lung damage and fibrosis are present that it usually fails to respond to medical management. It is frequently difficult or impossible to differentiate the lesion from primary lung carcinoma. Thus, early exploration is indicated. Surgical removal is usually followed by relief of symptoms (Figure 1 b.).

Case 2. L.L., a 30 year old white male complained of a productive cough since the age of two years with repeated attacks of pneumonitis and mild hemoptyses. X-rays of the chest showed marked involvement of the lower half of the left lung with numerous cavities visible (Figure 2 a and b). Bronchoscopy revealed much purulent secretion coming from this region. A diagnosis of an infected cystic lung was made and the patient was prepared for operation. The lesion was confined to the lower lobe which was removed. A photograph and large microscopic section through the removed lung shows numerous cystic spaces lined by columnar ciliated epithelium. Very little normal lung was found in this lobe. The patient had a smooth course following operation and has been relieved of his symptoms (Figure 2 c and d).

Case 3. R.L., a 33 year old white male, gave a history of pneumonia at the age of three weeks and a productive cough increasing in severity since that time. On admission he was raising two cups of sputum daily. An x-ray taken following the use of iodized oil showed bilateral bronchiectasis involving both lower lobes as well as both middle lobes. In addition, there was considerable emphysema at the lower portion of both upper lobes (Figure 3 a and b). His vital capacity was 3,700 cc. At the first operation on November 4, 1947, the left lower and middle lobes and a portion of the left upper lobe were removed. The vital capacity dropped to 2,900 cc. He was markedly benefited by this operation. At the second operation on July 18, 1948, the right

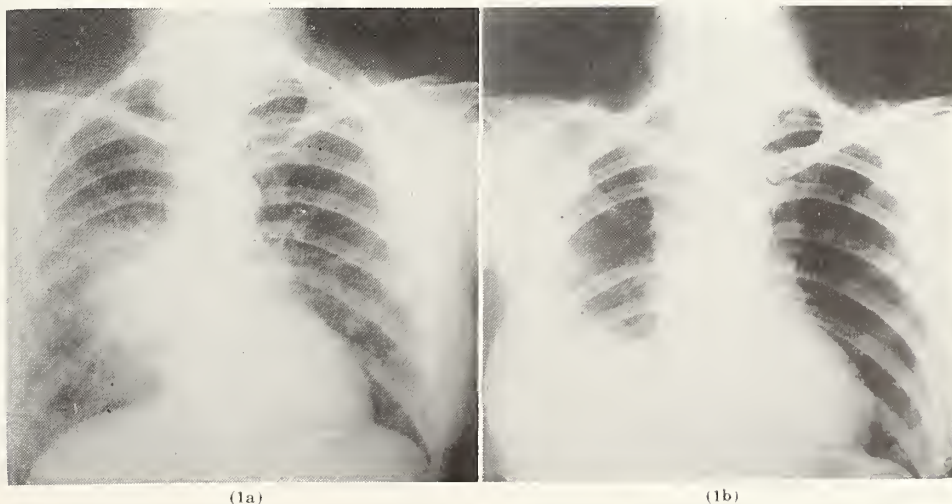


Figure 1 (Case No. 1) (a). X-ray of chest showing infiltration of upper part of right lower lobe. When lesion remained in spite of adequate medical care, exploration was advised since differentiation from primary lung carcinoma was impossible. (b). X-ray appearance of chest following lobectomy.

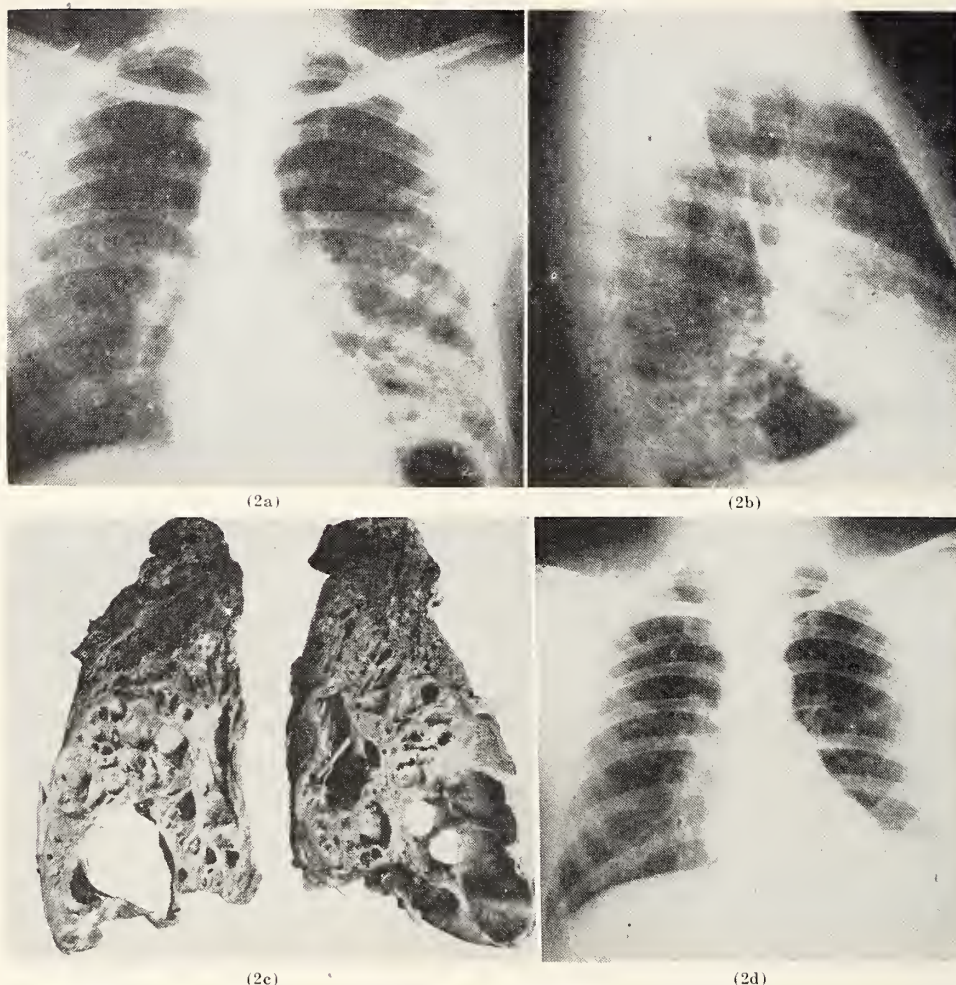


Figure 2 (Case No. 2) (a and b) Front and lateral views of x-rays of the chest following iodized oil injection. Note numerous cystic spaces in left lower lobe. (c). Photograph of two slices of lobe removed. (d). Postoperative appearance of chest.

lower and middle and a partial right upper lobectomy was done. The vital capacity dropped to 2,700 cc. Following this he made further improvement and at the present time is coughing and raising little sputum and feeling quite well. He is working full time (Figure 3 c and d). Bronchiectasis is the most frequent indication for pulmonary resection in non-tuberculous infections. It is accompanied by little risk if the fundamental principles of intra-thoracic surgery are observed and satisfactory results may be anticipated.

II. *Tuberculous infection.* Although sporadic reports of pulmonary resection for pulmonary tuberculosis have appeared during the past 50 years, the operation was attended by a high mortality and enjoyed little success until within the past decade. Indeed until streptomycin became available, this type of surgical therapy received relatively little favor. At the present time indications for the operation have become somewhat stabilized and include (a) bronchiectasis associated with tuberculosis, (b) failure of thoracoplasty, (c) bronchial stenosis with tension cavity,

(d) tuberculoma and (e) destroyed lung. The following cases illustrate some of these indications:

Case 4. A.M., a 20 year old white female complained of attacks of pneumonia and whooping cough at the age of eight months with a persistent cough since that time. There was a history of a frank pulmonary hemorrhage at the age of 11 years, at which time a diagnosis of bronchiectasis was made. On examination she was found to be a healthy appearing female with evidence of pulmonary infection in the left lower lobe. Bronchoscopic examination showed pus coming from the bronchus of this lobe. An iodized oil injection presented the characteristic picture of bronchiectasis (Figure 4 a). The sputum at no time contained evidence of tuberculosis. Exploratory thoracotomy revealed an infected process limited to the left lower lobe and a lobectomy was performed. A large microscopic section through the entire left lower lobe demonstrated the characteristic picture of bronchiectasis in the lower one-half. In the upper half, however, diffuse and circumscribed areas of infiltration are noted which on higher power are

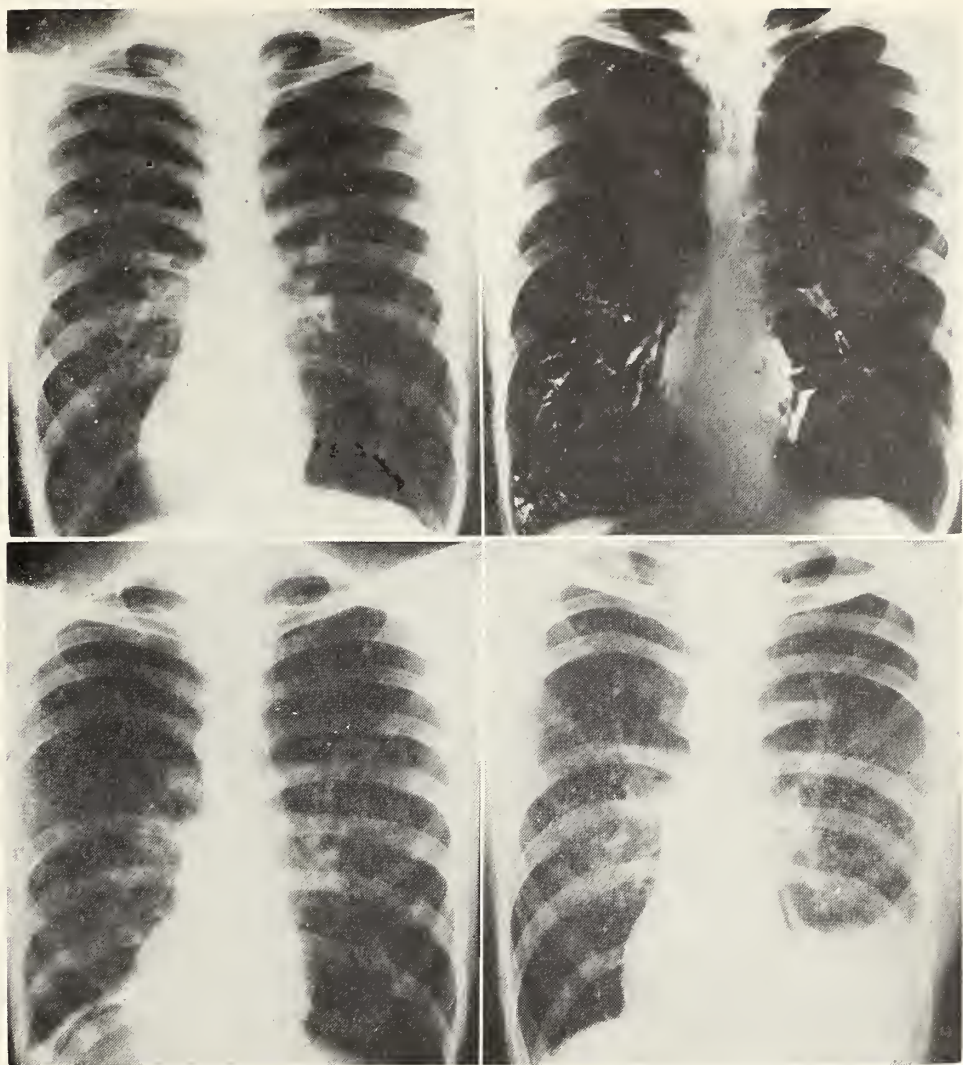
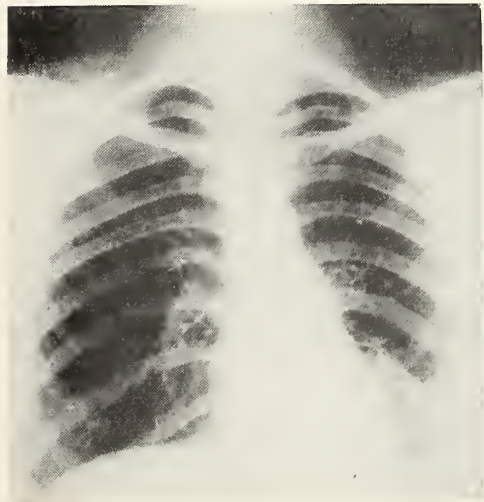


Figure 3 (Case No. 3) (a and b). X-ray appearance of lungs before and after iodized oil injection showing bilateral bronchiectasis and emphysema. (c and d). Appearance following bilateral resection of involved area.



(4a)



(4b)

Figure 4 (Case No. 4) (a). X-ray showing characteristic picture of bronchiectasis of left lower lobe. (b). Photograph of large microscopic section through resected lobe. Note bronchiectasis in lower half and tuberculous infiltration in upper portion.

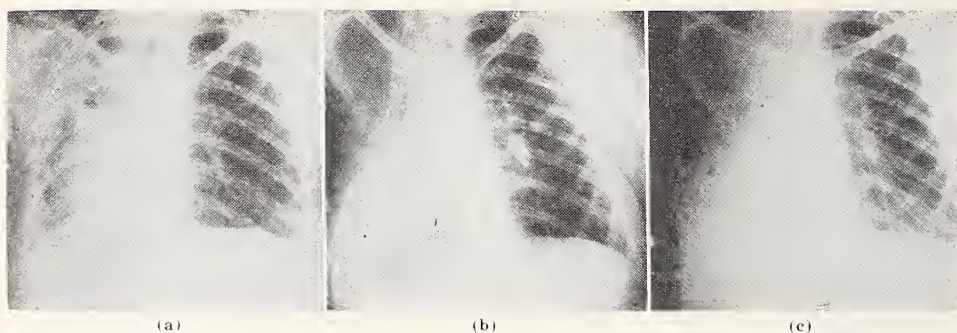


Figure 5 (Case No. 5) (a). X-rays showing bilateral pulmonary tuberculosis with much destruction of the left lung, (b) following thoracoplasty and (c) following left pneumonectomy.

found to be tuberculosis (Figure 4 b). Bronchiectasis caused by bronchial obstruction has been one of the major indications for resection in pulmonary tuberculosis. This patient has remained well and free of symptoms since operation.

Case 5. C.N., a white female, 30 years of age, gave a history of pulmonary tuberculosis of many years duration. She presented the picture of a chronically ill patient and had a persistently positive sputum. X-rays of the chest showed bilateral pulmonary tuberculosis with large cavities on the left. Over a period of several months the entire left lung was collapsed by multiple stage thoracoplasty. The patient improved markedly following this treatment, gained considerable weight and rapidly lost her cough and sputum. However, on approximately one half of the examinations her sputum continued to be mildly positive for acid-fast organisms. After a period of three years she was again admitted and a total left pneumonectomy was performed. Following this operation, she did well and her sputum has remained consistently negative. Large microscopic sections through the upper half of the removed left lung show persistence of a large irregular shaped cavity with much fibrosis and atelectasis (Figure 5, a, b and c). This case illustrates the difficulty in obtaining a cure by collapse therapy when a considerable amount of lung tissue is de-

stroyed with large cavity formation. Resection of the involved part has much to offer these patients.

Case 6. E.S., a 28 year old white female, gave a history of pulmonary tuberculosis of two years duration. She had been improved by sanatorial care and was referred for treatment of a persistent large cavity in the right apex. Her sputum was consistently positive. X-rays revealed a large tension cavity in the right apex. At operation this was found confined to the upper lobe. This lobe was removed and the upper part of the pleural cavity collapsed. A microscopic section showed a thin-walled tuberculous cavity with little surrounding infiltration. Her convalescence was uneventful. This patient had a type of lesion that usually fails to heal with collapse therapy.

III. *Neoplasm*. In 1933 Graham's¹⁰ total pneumonectomy for bronchogenic carcinoma led the way to successful surgical management for these tumors. Since then much has been learned about the nature of the lesions, and the principles of the operations have been more clearly defined. Although a total pneumonectomy is the desirable procedure in most patients, a lesser amount of resection is indicated when possible in patients with a markedly lowered pulmonary reserve. This is also the procedure of choice in so-called bronchial

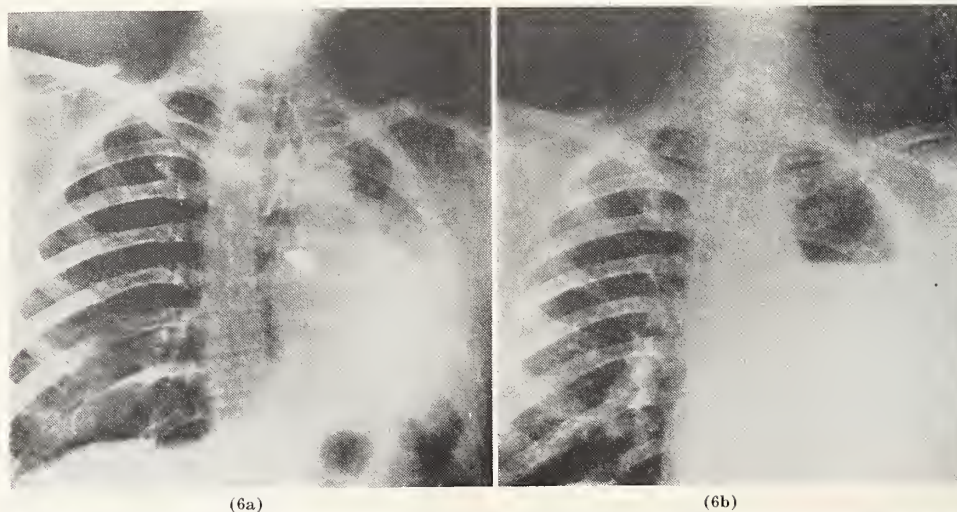


Figure 6 (Case No. 7) (a). X-ray of the chest following injection of iodized oil. Note obstruction of the left primary bronchus by carcinoma with atelectasis of the left lung. (b). X-ray appearance two weeks following resection of the left lung.

adenoma, (a slower growing malignant bronchial tumor) when all the tumor bearing tissue can be removed with less than a pneumonectomy. The same holds true for solitary pulmonary metastases when their removal is indicated. The following cases are illustrative of these factors:

Case 7. A.J., a 40 year old white male gave a history of having had two attacks of pneumonia of the left lung seven months and three and one-half months prior to admission. He had not been able to work since his second attack and had begun having small hemoptyses. On examination the left lung was dull to flat on percussion with the exception of the extreme apex. The sputum was negative for acid-fast organisms. An iodized oil injection revealed complete obstruction of the left main bronchus (Figure 6 a). Bronchoscopic examination showed a tumor filling the lower portion of the left main bronchus, which on microscopic section proved to be a bronchogenic carcinoma. A left total pneumonectomy was made, there being no evidence of metastasis in the mediastinum. The patient made an uneventful recovery and has remained asymptomatic since surgery five and one-half years ago.

Case 8. M.C., a 34 year old white female was first seen in 1933 complaining of cough and hemoptyses. An x-ray of the chest revealed an opacity in the right upper lobe for which x-ray therapy was received. Her symptoms and the opacity disappeared. Her symptoms and the opacity re-appeared in 1942 at which time x-ray therapy gave no relief. Exploration of the chest was made on October 14, 1943. A tumor of the right upper lobe bronchus was found and removed with the upper and middle lobes. Microscopic sections showed a so-called bronchial adenoma. The symptoms were entirely relieved. In 1945, a pelvic exploration for fibroids was made. At this time several lumps were palpated in the liver, one of which was removed for microscopic section. On examination the microscopic appearance was the same as that of the primary bronchial tumor. She continued to remain well for another three years, expiring in June of 1948. Widespread metastases to the brain and meninges were found. The final diagnosis was a slowly growing carcinoma of the lung. There was no evidence of tumor in the lung at autopsy. This case demonstrates that these tumors can metastasize and lead to a fatal termination similar to other malignant tumors.

Case 9. P.J., a 62 year old white male gave a history of pneumonia in October 1948 at which time an x-ray revealed a density in the upper left chest. This shadow disappeared only partially with therapy. Bronchoscopy on November 5 showed only subacute bronchitis (left). There was no history of cough, sputum or hemoptyses. He complained of mild fatigue. There was no fever or leukocytosis. Differential diagnosis was bronchogenic carcinoma or tuberculosis. Repeated tests were negative for evidence of tuberculosis or carcinoma. At exploration on November 24 a large hard mass was found

in the left upper lobe extending to the hilum. A left pneumonectomy was followed by an uneventful convalescence. A large microscopic section through the entire lesion showed chronic fibrocaseous tuberculosis and silicosis. He has remained well since operation. This patient presented a characteristic clinical and x-ray picture of bronchogenic carcinoma.

IV. *Indeterminate Pulmonary Lesions.* Although the means of study of pulmonary lesions have been steadily improving and the percentage of lesions recognized has been increasing, there still remains a considerable number of patients, the nature of whose ailment cannot be determined without operative exploration.¹¹ This is especially true with earlier stages of peripheral lung carcinoma, infiltrative pulmonary tuberculosis and tuberculoma, some forms of congenital malformation of the lung and a form of suppurative pneumonitis. Fortunately, exploration of the chest now carries no more risk than a similar operation on the abdomen. Thus, knowing that long-time survivals following resection for bronchogenic carcinoma depends largely on early recognition, there should be no hesitancy in recommending this procedure when a reasonable period of investigation fails to reveal the nature of the lesion by other means. These indeterminate lesions have been placed into three groups: (a) Those which are entirely asymptomatic and are found on routine fluoroscopic or x-ray examination, (b) those lesions associated with repeated hemoptyses and (c) those with cough and sputum. Some illustrations of these features are seen in the following patients:

Case 10. A.H., a 45 year old white male was referred to the Chest Clinic in April 1943 because of a pulmonary lesion found on routine x-ray examination when the patient was applying for a job. He was entirely asymptomatic and the physical findings were normal. An x-ray of his chest on April 28 showed a small, circumscribed infiltrate in the right lower lobe with a suggestion of beginning excavation (Figure 7 b). An x-ray made in September 1942 on induction into the Army showed a similar lesion, although somewhat smaller in size (Figure 7 a). Repeated sputum examinations were negative for acid-fast organisms including gastric lavage and guinea pig inoculations. Subsequent x-ray examinations showed gradual extension of the total involvement as well as the cavity formation. By January 1944 the possibility of a neoplasm was strongly considered. Bronchoscopic examination was entirely negative. The patient was explored on February 8, at which time a large tumor of the lower lobe was found. Microscopic sections proved this to be a squamous cell carcinoma, the central portion of the tumor having become necrotic, thus explaining the cavity appearance on x-ray examination. Many peripherally located carcinomas of the lung in the

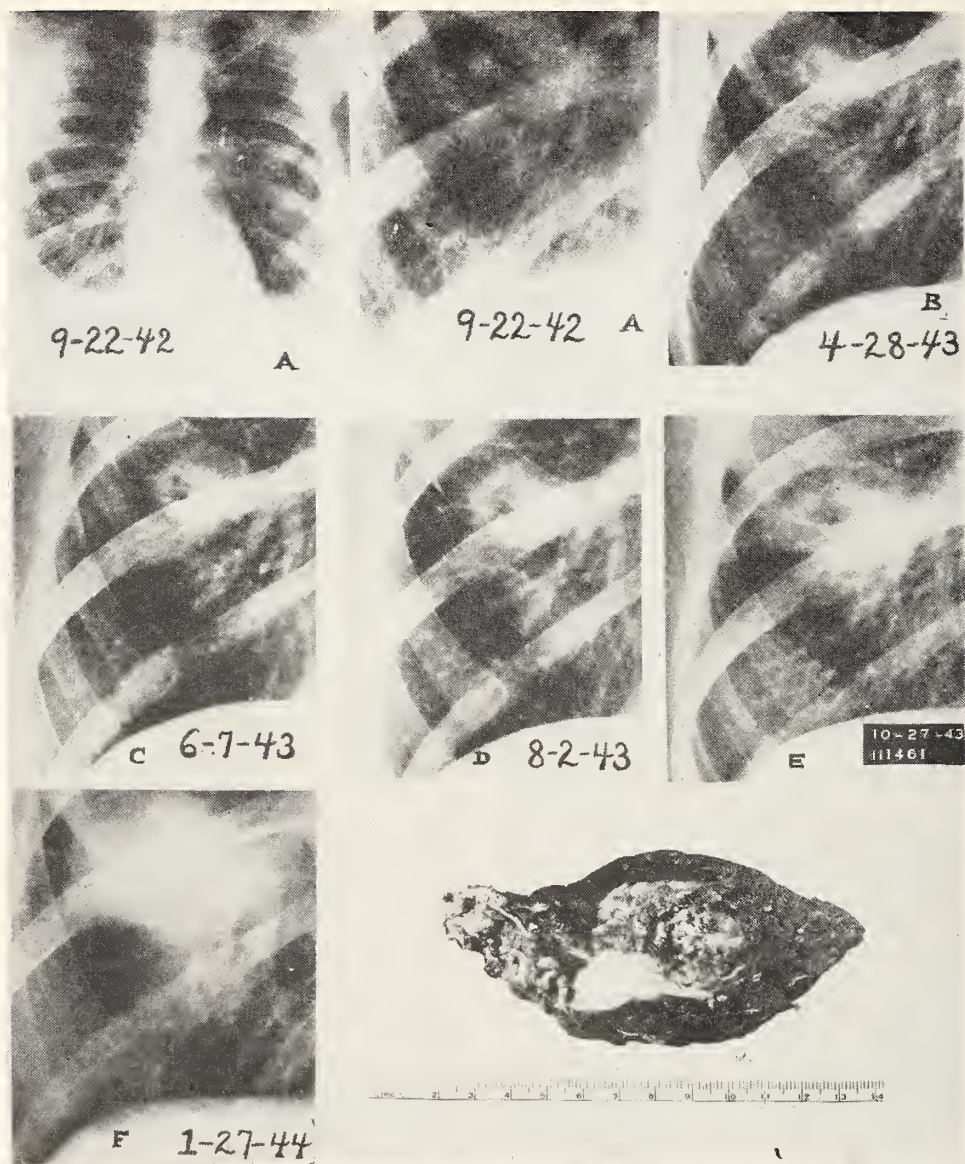


Figure 7 (Case No. 10). X-ray appearance over a sixteen month period produced by a squamous cell type of primary carcinoma of the right lung. Note gradual increase in size and cavity formation. Patient was asymptomatic when lesion was removed.

earlier stage appear much like minimal caseous tuberculosis. When repeated sputum examinations are negative for acid-fast organisms, especially on gastric lavage, a strong suspicion of carcinoma should be entertained. When these patients are explored early and the lesions removed, a long survival may be anticipated.

Case 11. J.M., a 28 year old white male, complained of several small hemoptyses during the previous six months. He had been told by a physician that he had heart trouble. Otherwise, he had been in good health. Physical examination revealed only normal findings. An x-ray of the chest showed a sharply circumscribed, circular opacity in the lower right lung field. It did not pulsate on fluoroscopy. X-rays taken at another institution

two years previously showed no evidence of the lesion. Differential diagnosis included a cyst of the lung or mediastinum or possibly a tuberculoma. Because of the repeated hemoptyses, exploration was recommended. At operation a spherical shaped mass was found in the right lower lobe. On compression this mass was found to pulsate, thus indicating an aneurysm. The right lower lobe was removed. A large microscopic section through the lesion showed it to be an aneurysm with a small arterial and venous communication. Most of the aneurysm was obliterated by an organizing thrombus. The final diagnosis was Congenital Malformation of the Lung. These lesions, although not common, are being recognized more frequently at the present time. Removal of the lesion usually gives rise to a complete cure.

Summary

This study reveals that today the indications for pulmonary resection are many and varied. Over 50 per cent of this series of 100 consecutive resections of the lung were for various inflammatory lesions, 24 per cent for congenital lesions and 19 per cent for neoplasms. Such operations have much to offer the patient and at little risk. Although most of the accomplishments in pulmonary resection have been made in the past two decades, the ground work was laid by courageous pioneers.

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SURGICAL CONSIDERATIONS IN THE TREATMENT OF GLAUCOMA

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There is probably no phase of the practice of ophthalmology which the practitioner faces with more uncertainty than that concerned with the care of glaucomatous patients. This undoubtedly accounts for the markedly diverse approaches which have been advanced for the relief of increased intraocular pressure and the conservation of the integrity of the optic nerve. The individual's experiences, successes and failures, have accounted largely for his concept that the disease must be considered predominately as a medical or a surgical problem. The average and most commendable approach is the attempt to normalize tension by medical means, and if this fails, to resort to surgery before irreparable damage is done to the optic nerve. Whatever the approach, one must bear in mind that the increased intraocular pressure is only a symptom of the disease.

This paper will make no attempt to prove by statistical analysis the best procedure to follow, but rather to state opinions and observations gained from personal experience and that of others. Unfortunately, few if any of us have

the opportunity to see enough of the various types of glaucomas, in different stages, to statistically evaluate the best approach for any given case.

The best route to a common understanding of the glaucomas, is a universally accepted classification. A generation ago, we classified all primary glaucomas on a basis of the vascular response, permitting interchange of such words as congestive and inflammatory glaucoma. Through the efforts of such investigators as Barkan, Trorcoso and Sugar, a more useful classification has been attempted, basing the differentiation on the appearance of the chamber angle. While this classification cannot satisfy all our requirements, and has opposition from such men as Duke Elder, it is nevertheless a step in the right direction. If it does nothing but require gonioscopic study, it has filled a great need.

In the 1948 meeting of the American Academy of Ophthalmology and Otology, a committee presented a symposium on glaucoma. It unanimously accepted the classification of primary wide angle and narrow angle glaucoma. The narrow angle type is due to blocking of the angle entrance by the root of the iris. The wide angle type allows the fluid access to the angle, but from there on appears to have its egress blocked. The narrow angle type is largely responsible for acute symptoms associated with increased tension, whereas the wide angle is the more chronic and produces few symptoms until the later stages. The latter is the accepted glaucoma simplex. Confusion may easily occur in some cases, as a wide angle type of glaucoma may have a shallow chamber. However, the increased tension is not due to blocking of the anterior chamber by the root of the iris. Difficulty in differentiation occurs usually in the far advanced cases where surgery is more or less the same.

This classification allows us to establish a working hypothesis in determining the type of operation to be performed. It necessarily cannot be rigidly adhered to, but is a sound footing from which to start and saves much indecisive floundering. Much success, too, depends upon the individual's experience and skill. It prevents the adoption of a single technic for all types of glaucoma and the associated disappointments.

Time will allow the discussion of only a few of the most commonly practiced technics, from the standpoint of indications, complications and the causes of failure.

Narrow Angle Glaucoma

The majority of acute cases with congestive symptoms fall into this category. Some of these cases may initially have been a wide angle type.

A prompt reduction in pressure is essential if damage to the optic nerve is prevented. A wide basal iridectomy is indicated if the initial attack is not over 24 hours duration and if medical management fails to lower the pressure to a more favorable level. If, after a 24 hour period the acute attack persists, an iridectomy is contraindicated because peripheral anterior synechiae have formed, reducing the chance of success. Sometimes after an iridectomy has been performed, the pressure again increases, and cyclodialysis is indicated as a reoperative choice.

In the chronic and chronic congestive types, including those acute cases inadequately controlled by miotics, a filtering operation is indicated. An iridencleisis with incarceration of both pillars, is preferred where the base tension is not above 40 mm. to 45 mm. Schiotz. A slanting keratome incision is started 2 mm. to 3 mm. above the limbus, entering the chamber at the base of the iris. The depth of the chamber may be such that an adequate width of the incision cannot be obtained. In this instance an enlargement is made with corneal scissors parallel to the limbus and not toward it. The root of the iris is then drawn directly into the wound without riding over a shelf of corneal tissue. Base pressures above 45 mm. are best handled with a combined iridencleisis and sclerectomy. The technic is much the same as for iridencleisis alone, except for excision of sclera by either punch or scissors. In the face of marked iris atrophy, a trephine is substituted for either one of the two procedures. If in the event of failure of either of the above procedures, a cyclodialysis is indicated and may be repeated. This is the only situation where cyclodialysis should be performed in narrow angle glaucoma.

Wide Angle Glaucoma

This type has a much higher incidence of failure, with either medical or surgical therapy, than the narrow angle type. This may be due to the fact that treatment is sought later, or the decision to operate is delayed. Kronfeld² has shown that when surgery is delayed until there is advanced damage to the optic nerve, failures increase alarmingly. In addition, 38 to 50 per cent of these advanced cases of glaucoma continued to show progression of the disease in spite of successful control of tension by surgical means. When only an island of vision remains around the point of fixation some men feel that it is better left alone. However, unless the patient is feeble or senile, I feel better if the tension is brought within normal range, even by surgical means, providing the central field is not impaired.

In cases where tension lies in the lower ranges,

a cyclodialysis is considered to be the operation of choice. A large cleft is mandatory. A 120° opening in the angle should insure success; some attempt even more. This procedure may be repeated with good chance of success. When chambers are shallow, or posterior synechiae are present, this procedure is not favored, except in aphakic eyes showing secondary increases of tension. If such synechiae can be avoided, it is desirable. In any case, one should stay away from the horizontal meridia because of the long posterior ciliary vessels. Sugar³ states that in aphakia with complete anterior synechia, cyclodialysis is still indicated.

Where tension is consistently above 40 mm. with the Schiotz tonometer, one of the filtering operations is indicated. An Elliott Trephine, or iridencleisis, with or without a sclerectomy, may be employed. Where the range of tension is moderate, either the trephine or iris inclusion is indicated, though the leaning is towards the latter, especially when lens changes are apparent. There appears to be less progression of the cataract. Neither operation can be favored for a future cataract extraction as both necessitate a corneal incision to avoid the filtering bleb. With tension above 50 mm. Schiotz, a sclerectomy combined with the iridencleisis is indicated. Where iris atrophy is very marked, an Elliot trephine is chosen in place of all the above procedures.

In the event of failure of a cyclodialysis, the operation may be re-employed. If the tension still remains increased, then an iris inclusion with a sclerectomy is in order. Failure of a trephine is best followed by an iris inclusion with a sclerectomy. If these procedures fail, and the patient will hold still, a cyclodiathermy seems to be a valuable procedure, although I have had little success with it.

Failures

Unfortunately, failures are all too common, even with the judicious selection of cases and skilled technic. Even when the tension is normalized, some patients progress to complete loss of vision.

Gonioscopic and slit lamp examinations are aids in determining the success or cause of failure of a trephine operation. The scleral opening may be closed or blocked from within by fibrous tissue, iris, ciliary body or lens. Kronfeld states that 80 per cent of the blocked openings are closed from the outside by a fibrotic process. He believes that failure of the conjunctival bleb to do its job is over-emphasized. The unsuccessful iridencleisis is probably also due to the above mentioned causes. Some pathological sections show that the incision is too far forward, necessitating

the iris to be drawn over a shelf of cornea before it is incarcerated. This does not allow free filtration.

When the cleft produced by a cyclodialysis closes, it surely is a failure. The opening into the anterior chamber may appear to be adequate, yet closed further posteriorly, preventing suprachoroidal drainage. It is often impossible to determine the cause of failure until the eye comes to the pathologist.

Complications

Probably the most common complication of all types of glaucoma surgery is the occurrence of cataract. This may be rapid progression of known lens changes, or less frequently the opacification of a formerly clear lens. Nothing can be done aside from having prepared the patient beforehand for an eventual lens extraction. It is very difficult to determine if trauma to a lens occurred during the operation, especially with the trephine.

Hyphema occurs as an early complication either at the time of surgery or at the first dressing. A variable amount is certain when congested eyes are operated. Hemorrhage may not cause failure in itself, but the absorption is slow, and synechia are invited. It is the most common cause of closure of a cyclodialysis cleft, and injection of air into the anterior chamber at the time of operation is an essential safeguard. Air is introduced by means of a hypodermic needle on a 2 cc. syringe. The needle is passed through a long slanting incision made in the lower cornea, prior to the operation, according to Chandler's technic.

Iritis occurs in a variable number of cases and if not anticipated will produce serious difficulties. In every case where there has been manipulation of the iris, especially trephine and iris inclusion, atropine should be instilled at the conclusion of the operation. We instill atropine at each successive dressing until the eye is quiet. In cases of hyphema, atropine is used more judiciously. Failure to use atropine following filtering operations is a common cause of failure. In cyclodialysis, it is important to keep the pupil mobile by using miotics and mydriatics alternately.

Persistent flat anterior chamber is a relatively common occurrence after a trephine. Most of them reform spontaneously, but a few may require injection of air or cauterization of the wound lips.

Other complications include forward displacement of the lens, prolapse of vitreous, hypotony, sympathetic ophthalmitis and infection.

Summary

An attempt has been made to show the indications for glaucoma surgery based upon the diag-

nosis of a narrow or wide anterior chamber angle. The failures and complications of surgery are discussed.

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Discussion

Leland H. Prewitt, M.D., Ottumwa: I agree with Dr. Wolfe's statement that failures occur regardless of the skill of the physician's technic, whether it is medical or surgical. This thought is counterbalanced by a recent pathologic report by Dr. Brittan F. Payne, Pathologist, New York Eye and Ear Infirmary, New York City, on the failures of glaucoma operations in which he says, "the cases we see in the laboratory are failures, but the majority of operations are successful."

The classification of primary glaucoma into the primary wide and the narrow angles, while not perfect, will aid a great deal in attempting to standardize operative procedures for similar glaucomatous conditions. Duke Elder, in his recent article, "Fundamental Concepts of Glaucoma," differs a great deal from the above classification, as there is an overlapping in a few instances. He stresses that the vascularity and sclerosis of the uveal tract play an important part in the therapy of glaucoma, regardless of whether it is narrow angle or wide angle. This theory may help explain why different operative procedures are successful for the same conditions as cyclodialysis and iridencleisis. It may explain why Dr. C. S. O'Brien, Professor of Ophthalmology, University of Iowa, in his new technic of cyclodialysis operations, uses this procedure in 75 per cent of all chronic congestive glaucoma cases, regardless of their classifications.

A great deal of the recent success has been due to improved technics in older operations. Dr. O'Brien, for instance, makes his incision 4 mm. from the limbus thus avoiding the anterior ciliary arteries and preventing hemorrhages. The grooved spatula aids in draining blood, being careful not to go beyond the iris border traumatizing the iris, the lens and cornea. This may prevent the formation of cataracts. Dr. Peter C. Kronfeld of Chicago, recently suggested three reasons why the iris inclusion may not persist as a permanent channel:

1. If you pull down a conjunctival flap (correctly called Tenon's conjunctival flap), failure is almost inevitable. The secret of success is Tenon's capsule. Injection under Tenon's conjunctival flap with novacaine, aids in obtaining this combination.

2. If you go too far forward on the limbus in your dissection, Tenon's capsule will end. This is true especially in prominent eyes and in those of the Negro race. Likewise this was the cause of failure in the trephine operation, which is subject to collapse of the bleb, late infection and fibrotic closure.

3. Always maintain a thick free iris center and a good conjunctival Tenon's Capsule, as it is the secret

of a good filtering mechanism. Avoid wounding the tissue by handling your flap with sponges. Cauterize only when necessary, as all unnecessary manipulation tends toward scar tissue formation and obliterating the filtering mechanism.

Even though the bleb does not remain gross, it does not mean that it has ceased filtering, as pressure on the eye ball under a Slit-Lamp will show that the filtering process is continuing. Massage of the eye is important. Dr. Paul A. Chandler, Professor of Ophthalmology, Harvard University, suggests that the physician should train the patient before the operation.

Dr. Vera Walker, Ophthalmic Allergist of Oxford, England, who recently attended the College of Allergy, stated that 15 per cent of glaucoma cases are due to allergy and that some persons believe the percentage to be as high as 50 per cent. I suggest that if you place these patients on penicillin, streptomycin, and rutin with vitamin C, combined with a thorough allergy study, it will aid in the final results of whatever operative procedure you use, as well as retard the often hidden iritis present in these cases.

As previously mentioned, Duke Elder stresses that vascularity and sclerosis of the uveal tract play an important part in glaucoma, and since Dr. French Hansel, Editor in Chief of *Annals of Allergy*, and other allergists suggest that vascularity plays an important role in allergy, I believe that if you work up your cases from an allergic view point, your results will be interesting.

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**CLINICAL PATHOLOGIC
CONFERENCE**
October 18, 1950

Summary of Clinical Record

This 78 year old white male entered the University Hospitals with a history of having his first symptoms three months before admission. At that time he experienced a sharp, aching pain in his epigastrium immediately after swallowing a mouthful of food at the beginning of a meal. This pain disappeared in a few minutes, and he experienced no difficulty with the remainder of the meal. A few days later a similar episode occurred and continued progressively at more frequent intervals. Two months prior to admission he began to have difficulty in retaining solid food. Soon it had progressed to the point where he could not eat solid foods. For the seven weeks preceding admission, he had been in a hospital where he had received both oral and intravenous fluids. His appetite had remained good. There had been a weight loss of approximately 40 pounds during the three months of illness. The

only previous serious illness had been typhoid fever at the age of 22 years. The family history and the social history were non-contributory.

Physical examination disclosed the patient to be chronically ill with evidence of recent weight loss. He was alert and cooperative. The tongue deviated slightly to the right. There were no palpable nodes in the neck, and the thyroid gland was not palpable. The anteroposterior diameter of the chest was increased, and the chest was hyperresonant to percussion. No rales were audible in the lungs. The borders of the heart could not be outlined by percussion. The heart tones were distant, and a grade II systolic murmur was audible over the entire heart, most prominently at the apex. The cardiac rate was 76 per minute with a regular rhythm. The blood pressure was 110/64. The abdomen was scaphoid with no masses or tenderness, and no solid organs were palpable. Rectal examination showed some enlargement of the prostate which was soft. Incipient decubiti appeared to be developing on the buttocks.

The urine had a specific gravity of 1.021, an acid reaction, a trace of albumin, and the chemical tests for sugar and blood were negative. Microscopic examination of the urine revealed no abnormalities. The hemoglobin value was 13 gm./100 ml.; the red blood cell count was 4,700,000/cu.mm., and the white blood cell count was 22,800/cu. mm. The peripheral blood smear showed a differential count of 74 segmented polys, seven banded polys, four eosinophiles and 15 lymphocytes. The prothrombin time was one minute and 40 seconds with a control of 46 seconds. The blood urea nitrogen was 8.0 mg./100 cc. and the creatinine 1.0. Total plasma proteins were 5.98 gm./100 ml.; albumin 3.45 gm. and globulin 2.53 gm. The electrocardiogram was interpreted as showing delayed interventricular conduction. Following a barium swallow, the esophagus appeared to be greatly dilated throughout its upper two-thirds, with evidence of retained food and fluid. At the junction of the middle and lower thirds, a fusiform narrowing of the esophagus was present. There was also evidence of spill of barium into the right bronchial tree.

Esophagoscopy revealed a grayish-white, fungating mass at a level 25 cm. from the upper incisor teeth. The lesion bled easily. Biopsies were taken. Bronchoscopic examination revealed no abnormality in the tracheobronchial tree.

Seven days following admission, the hemoglobin value was 9.0 gm./100 ml., and the red blood cell count was 3,420,000/cu.mm. The patient received two blood transfusions. On the tenth hos-

pital day, resection of the distal three fourths of the esophagus, a splenectomy and an esophago-gastrostomy were performed. He was given both penicillin and streptomycin in intramuscular injection. The day following surgery, the lungs were completely expanded as demonstrated by roentgenography. Two days later the patient became somewhat short of breath. A roentgenogram was interpreted as showing pneumonia involving both the right upper and lower lung fields. On the fifth postoperative day, the temperature, which had been rising to 100 and 101.8 rectally daily from the day prior to operation, returned to normal and remained so until the day of death. The patient was started on oral liquids on the sixth postoperative day. On the following day, he developed signs of deep venous thrombosis in the left lower extremity; a left superficial femoral vein ligation was performed. On the eighth postoperative day, he was unable to cough and fluid began to accumulate in the tracheobronchial tree in spite of aspirations. At this time examination showed the trachea to be palpable in the midline of the neck. He was less responsive than previously, and his general appearance was poor. A roentgenogram showed increased density in the periphery of the right lung field, increased density in the right cardiophrenic angle and a mottled density throughout the entire left lung field. There was evidence of fluid in the left pleural cavity. A needle was inserted into the left pleural space, and 190 cc. of air were withdrawn. Manometer readings disclosed no signs of increased intrapleural tension. Bronchoscopy was carried out, and a considerable amount of frothy, foamy, mucoid material was aspirated. This was followed by temporary improvement in the patient's condition. However, a few hours later he was found dead in bed.

Dr. Sidney E. Ziffren (Surgery): Those of you who have read the protocol are well aware of the fact this patient had something in his esophagus. I hope you noticed that he was 78 years of age also. He had a typical history of beginning bouts of dysphagia, which progressed to almost complete dysphagia when he was admitted to a hospital and was fed parenterally for seven weeks. When he entered this hospital it was evident the patient had suffered a marked weight loss. Outside of that he was not unusual. After he was admitted to the hospital and had a history and physical examination, we had him take a barium swallow. Dr. Kerr will show those films.

Dr. H. Dabney Kerr (Radiology): Examination showed a constriction near the lower end of the esophagus (Figure 1). The lesion had the appearance of being stiff and non-pliable. Above



Figure 1. Carcinoma of the esophagus.

this area, the esophagus was dilated and filled with barium through which could be seen spots of decreased density. Our impression was that this patient had an annular carcinoma of the esophagus with retained food in a dilated superior portion. In our experience this is a common type of carcinoma of the esophagus. In differential diagnosis one would have to consider benign stricture with sudden obstruction as with a meat bolus or a grain of corn and subsequent piling up of food. A benign stricture would probably have had a history of swallowing corrosive and a longer period of disability. Our impression was that this patient had a localized carcinoma with a mass of accumulated food. Spill of barium into the bronchial indicated either an esophageal fistula from erosion through the carcinoma or a spill into the trachea because the esophagus was filled.

Dr. Ziffren: On one of the films there was a suggestion of spilled barium into the bronchus. When the otolaryngologist passed the esophagoscope at the level of 25 cm. from the upper incisor teeth, he found what he described as a grayish white fungating mass. He took a biopsy and did a bronchoscopy but found no abnormality in the tracheobronchial tree. We were led to assume that the spillover of barium was probably not due to invasion of the neoplasm into the bronchus, but rather to overfilling inasmuch as he could not get anything through his esophagus and so it spilled over into his trachea.

One week following his admission the hemoglobin and red count had dropped, and we gave

him some blood. Before the operation the esophagus was cleaned to our satisfaction by irrigation with one of the antibiotics and aspiration of the contents. At the time of the operation we noted a tremendous dilatation of esophagus about three and one-half inches above the diaphragm. On palpation a mass could be felt within the esophagus. This mass was puzzling. The esophagus was dilated, larger than a small orange, and the esophageal wall was thin. After we determined that the mass was free, at least from the standpoint of not invading the trachea, the hilus of the lung, or aorta, we decided we should go ahead and remove it. In attempting to free it from the hilus of the lung, the thin wall of the esophagus broke and, in manipulating it, a large quantity of very fungating cauliflower-like material appeared. It came out in a great stream. I have never seen anything like it. The tumor filled the entire esophagus. After dissection, the esophagus was freed from the aorta above the level of the aortic arch and above the lesion. It was brought over the aortic arch, and then the stomach was freed. The spleen was removed, and the stomach was mobilized enough to be brought to the apex of the chest.

At this time, we had a decision to make. The esophagus was dilated and thin walled. As you well know, the blood supply of the esophagus is hazardous at times, and we wondered whether it would be safe to anastomose the stomach to the thin-walled esophagus at the extremely high level that the anastomosis would have to be done. We wondered if the blood supply would be inhibited or, after the esophagus had shrunk down, if it would pull the stomach up so high into the neck that the blood supply of the stomach might be compromised. At any rate, we decided that we could do this without too great a risk. If we did not carry out the anastomosis, the only other choice was to perform a jejunostomy or a gastrotomy and bring the end of the esophagus out to the surface of the neck. Then probably we would operate on him a second time. In view of the patient's age, we felt it would be hazardous to do a second operation. We completed the operation and did an esophagogastronomy.

Postoperatively he seemed to be doing quite well. It is true that he had some pneumonic process involving the lung, but his temperature came down to normal, and he was given oral liquids on his sixth postoperative day.

On the seventh postoperative day it was noted that he had the signs of what is popularly spoken of as phlebothrombosis. A Homans' sign of thrombophlebitis and tenderness over the calf were present. It was felt that under these circum-

stances it probably would be wise to ligate his superficial femoral vein on that side, inasmuch as we were afraid of administering heparin or "dicumarol". The superficial femoral vein was ligated and no clot was found. Then he began to have more difficulty. Fluid collected in his tracheobronchial tree and aspiration was done frequently. His condition became more aggravated as shortness of breath and lethargy appeared. A leakage of air at the suture line and a collapse of the lung were suspected. Manometer readings appeared normal. Bronchoscopy temporarily relieved him, but a short time later he died.

Student: We were talking about the splenectomy this morning and thought it was probably just to get it out of the way.

Dr. Ziffren: That is essentially why it was done. It also makes the technical part of the operation much easier. Mobilization of the stomach is required to bring it up into the apex of the chest.

Dr. Elmer L. DeGowin (Medicine): How did you know the needle was in the pleural cavity when the manometer reading was being taken and found normal?

Dr. Ziffren: It was difficult for us to exactly know what was going on with the patient. His trachea was in midline, and we thought the breath sounds were coming through that side satisfactorily, but just in case we were in error, and since he was in such poor condition, we felt that we had better make sure. There is always that possibility. The manometer seemed to fluctuate as it ordinarily does in a normal pleural cavity.

Mr. Carroll E. Swanger, Student: For the primary diagnosis the great majority of the class felt that it was carcinoma of the esophagus. Some of the other conditions discussed were Plummer-Vinson syndrome, benign stricture of the esophagus, bronchogenic carcinoma with extension to the esophagus, carcinoma of the stomach with extension, carcinoma of the larynx with extension, pulmonary tuberculosis and achylasia of the esophagus. For the immediate cause of death, the majority felt that it was aspiration pneumonia with atelectasis, 18 voted for pulmonary embolus, five for cardiac failure and two for disruption of the surgical anastomosis.

Dr. Ziffren: As for the cause of death in our opinion, first we thought he might have had a leak, but we were not quite sure. Second, we seriously considered this individual might have had a pulmonary embolus even though the picture was not exactly like that seen with the usual pulmonary embolus.

Dr. Robert W. Newman (Orthopedics): Did he have a Wasserman?

Dr. Ziffren: He had a Wasserman, and it was negative.

Necropsy Findings

There was evidence of a recent partial esophageal resection with a high extra pleural esophagogastronomy for carcinoma of the esophagus. There was massive collapse of the left lung and patchy collapse of the right lung, with bilateral pleural effusion. A mediastinal abscess, secondary to a breakdown of the esophagogastronomy, had dissected posteriorly to the right lung hilus and had communicated with the stomach through an opening a few millimeters below the anastomosis. The blood supply to the upper part of the stomach apparently had been sufficiently compromised so that only the muscularis remained, and it was of questionable vitality.

The carcinoma was an exceedingly anaplastic neoplasm of probable squamous epithelial origin. Metastatic carcinoma was found in two of 11 intrathoracic lymph nodes. There were no distant metastases.

There was moderate cardiac hypertrophy with extensive fibrosis of the left ventricular wall. Calcific valvulitis of the aortic and mitral valves was present. Small hemorrhagic infarcts of the lungs and adrenals were noted. There was recent thrombosis of the hepatic vein.

Necropsy Diagnoses

Esophageal resection with esophagogastronomy for carcinoma of esophagus.

Mediastinal abscess.

Massive collapse, left lung.

Pleural effusion, bilateral.

Cardiac hypertrophy with myocardial fibrosis.

Recent small infarcts of lungs and adrenal glands.

Dr. John R. Carter (Pathology): The cause of death in this case was primarily the breakdown of the anastomosis, resulting mediastinal abscess posteriorly and with pleural effusion and collapse of the lung.

Dr. William B. Bean (Internal Medicine): How extensive was the anastomotic breakdown?

Dr. Carter: It was not too marked, Dr. Bean.

Dr. Ziffren: The otolaryngologist esophagoscoped this patient. We thought they might have something to say.

Dr. Frank J. Shaffer (Otolaryngology): Dr. Ziffren described the lesion as found when this patient was esophagoscoped. As you have seen, it was found on biopsy that it was an anaplastic type of epidermoid carcinoma. We feel that the early symptoms of carcinoma of the esophagus are vague and often these patients are treated for a considerable period of time with various of the

antacids. Various diagnoses are given, particularly the psychoneuroses. Another thing to remember is the long period of dysphagia. Pain is a late symptom. Dysphagia surprising enough may be intermittent. Vomiting and blood in the vomitus are late symptoms.

The most common type of carcinoma of the esophagus is the epidermoid or squamous cell type. A patient may have an adenocarcinoma in the lower third which is particularly seen in association with a similar lesion of the stomach. Sarcoma is found, but rarely. The middle third is most frequently involved; the lower third next most frequently involved.

We rely on two things for diagnosis. Inference is poor. The x-ray and the esophagoscope, at least at present, are the only means of diagnosis. Early symptoms of dysphagia should be investigated. It may be intermittent, so keep that in mind.

Dr. Johann L. Ehrenhaft (Surgery): The intermittent dysphagia which occurs in early carcinoma of the esophagus is due to spasm secondary to inflammatory changes in the region of the neoplasm as well as intermittent obstruction by a food bolus which later passes. The disease is a quite common disease in men. It is the fourth highest in incidence of carcinoma in the male. Carcinoma of the upper esophagus is more common in women and in the lower esophagus more common in men. It is said that carcinoma of the esophagus is much more frequently seen in Japan and in China, and some of the early successful surgery on carcinoma of the esophagus has been done by Japanese surgeons. The earliest extirpation of an esophageal carcinoma in the human being was done in 1877 by Dr. Vincenz Czerny and from that time on occasional case reports occurred where patients survived resection of the esophagus for malignant lesions. In 1913 Dr. Franz Torek reported the first successful case with a long survival. This particular patient had a resection of the carcinoma of the esophagus with a cervical esophagostomy and gastrostomy with re-establishment of the continuity of the upper alimentary tract by a rubber tube. In 1933 Dr. Oshawa reported the first successful intrathoracic resection with primary anastomosis in the human. Dr. W. E. Adams and Dr. D. B. Phemister in 1938 reported the first case in this country establishing continuity by an esophagogastronomy. Since then many different techniques have been devised, but most surgeons attempt to use the stomach by doing an esophagogastronomy to establish continuity for deglutition. At present there are many reports in literature where the stomach has been mobilized sufficiently intrathoracically to be anastomosed in the cer-



Figure 2. Before radiation.

vical region. In general, it may be stated that every attempt is being made today by surgeons to establish continuity for deglutition by a one-stage intrathoracic procedure if at all possible. The performing of a cervical esophagostomy and then reconstruction of an antethoracic esophagus has slowly fallen by the wayside. The time of survival of the cases who had resections varies greatly, but long time survivals are quite rare.

Metastasis in carcinoma of the esophagus is to the deep cervical lymph node chain, to the paraesophageal nodes, hilar nodes and to the nodes along the lesser curvature of the stomach. Sometimes carcinomata of the esophagus are resectable even though they have distant lymph node metastasis. In those instances I feel it is worthwhile to resect the carcinoma to give palliation only and make it possible for those patients to swallow again even though they die later on of the spread of the disease. We always try now to re-establish continuity if at all possible by utilizing the stomach and mobilizing it as high as it is necessary. In doing so one has to be extremely careful to preserve blood supply along the stomach; namely, the greater epiploic arch. Splenectomy is frequently necessary as well as transec-

tion of the ascending branch of the left gastric artery.

Dr. Ziffren: The radiologists frequently treat patients with carcinoma of the esophagus who are inoperable. I wonder if Dr. Kerr might say a few words.

Dr. Kerr: As you can see from what has already been said, carcinoma of the esophagus is a rather difficult problem. Up to the present we have been convinced that any patient with carcinoma of the esophagus that is possibly operable should be operated upon. I think irradiation is worth while, particularly if the thoracic surgeon does not think he has a good chance of helping them. The longest we have had a patient survive is about two years. At the time of autopsy, this particular patient did not have any recurrent local lesions; he died of metastasis as many of the others do.

There is one patient that I would like to show you. In this instance a large lesion, histologically poorly differentiated, with overhanging edges, is

(Continued on page 588)

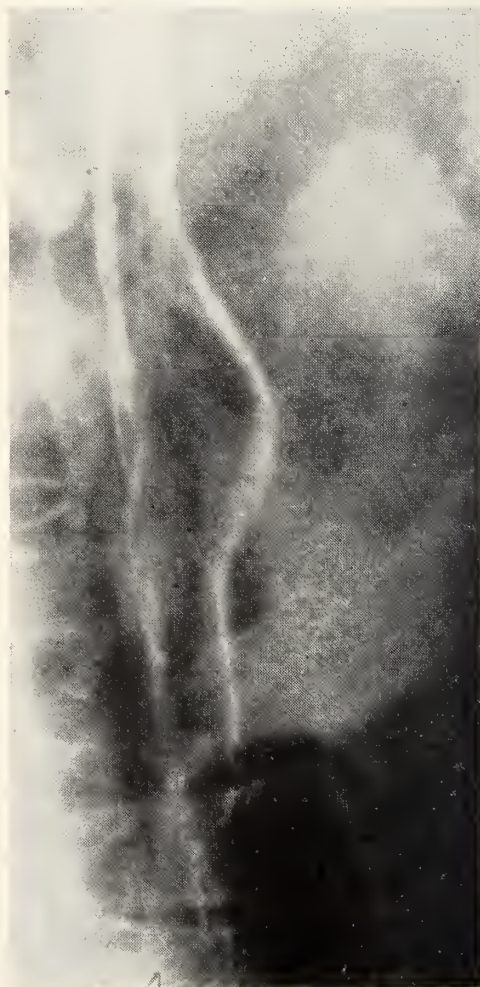



Figure 3. After radiation.

STATE DEPARTMENT OF HEALTH



CHRISTMAS SEALS AND CASE FINDING

The annual sale of Christmas Seals by the local tuberculosis associations underlines the activities of the voluntary health association and the year-around program. Again this year, the funds from the sale of Christmas Seals will support the Iowa Heart Association, as well as the Iowa Tuberculosis and Health Association and the county affiliates.

The two voluntary health agencies have joined with the State Department of Health as in previous years, in several different case-finding programs for tuberculosis and heart disease. Probably the best known of these are the two Co-operative Case-Finding Programs which search for cases of tuberculosis, heart conditions and other chest pathologies through extensive use of x-ray.

The official agency and the voluntary agencies have three mobile photo fluorographic units in operation, one being used primarily for the Contact Program and the other two in the County-Wide X-ray Survey. Both programs are set up on a county basis and are undertaken only upon the approval of the County Medical Society.

The Contact Program is done by a public health nurse who follows known contacts of tuberculosis, developing case histories. She works with physicians, the family and the patient. Tuberculin tests are given and reactors are encouraged to have a chest x-ray. Findings are reported to the doctor who then discusses them with the patient.

The County-Wide X-ray Survey is an adaptation of the fast-tempo x-ray survey developed in metropolitan areas. The objective is to bring every person of school age and up into the x-ray unit during the 20 to 40 days the unit is in a county. To do this, an extensive lay and professional education program is begun in each county about three months before the survey. Effort is made to interest every person in having a chest x-ray and to understand its value. Actual participation varies from less than one half of the population of a county to upwards of 85 percent, depending upon the success of the pre-survey education and organization.

These case-finding surveys are staffed by nurses, health educators and x-ray technicians from the Division of Tuberculosis, State Department of Health. Much of the organization work in the community is done by local volunteers. The x-ray findings are submitted to the physician. The cost of the surveys is borne jointly by the State Department of Health and the Iowa Tuberculosis and Health Association through its local affiliates.

Another cooperative program sponsored by the State Department of Health and the Iowa Tuberculosis and Health Association is a hospital admission x-ray program at the State University of Iowa Hospitals. The program is of a demonstration nature to determine whether, in a state with relatively low death rate and incidence of tuberculosis, routine chest x-rays upon admission to a general hospital area are productive techniques of finding undiscovered tuberculosis.

X-ray results from such groups as these are being studied: hospital employees, new students, new admissions to the hospital, graduate and undergraduate nurses and medical school staff. The first year's work on the two-year demonstration has been completed but annual figures have not yet been tabulated. For the first six months, during which 11,601 miniature chest x-rays were taken, 72 cases of suspected pulmonary tuberculosis were reported. Eight of these were among students enrolled at the university.

The State University of Iowa provides the photofluorographic equipment and housing; the State Department of Health supplies the film, and the Iowa Tuberculosis and Health Association provides the funds for the necessary additional technical and clerical staff to man the program.

The Iowa Heart Association, through its share of the funds for Christmas Seals, has provided \$15,000 to the State University of Iowa to help maintain the Cardiovascular Laboratory. Other funds come from the State Department of Health, the United States Public Health Service and the State University of Iowa.

Although initiated with the idea of investigating certain problems of heart disease and circula-

tory difficulties, the study has expanded into phases of cardiovascular-renal disease research as well. The laboratory has been able to render consultation service to about 40 patients during the last six months. Some of the clinical conditions represented have been coarctation of the aorta, hypertrophic pulmonary osteoarthropathy, congenital heart abnormalities, portal venous obstruction and several other interesting conditions.

The Iowa Heart Association has also contributed to the research project at the University of Iowa in the field of rheumatic heart disease. The study is being conducted by Dr. Robert Jackson and associates.

Christmas Seals are more than just a pretty yuletide tradition in Iowa—they are the means of furthering and improving the public health of the state through research, case-finding and education.

SHOE FITTING FLUOROSCOPES

Many shoe fitting fluoroscopes, as used in retail stores, have been found to release excessive amounts of uncontrolled x-rays. Since the matter of radiation hazards, including the potential genetic effects, is being given considerable attention, comments have been made, both editorially and technically, on shoe fitting fluoroscopes in an increasing number of medical journals.

So far, neither radiation ulcers, cancers nor arrests of epiphyseal growth have been reported. However, in medical practice more and more harmful effects are being reported years after exposure to radiation. Furthermore, it is possible that skin injuries and epiphyseal distortions have occurred and have been ignored or attributed to other causes. The histories of late cancer on the hands of roentgen ray pioneers suggest that the time may still be too short for injuries to appear from shoe fitter exposures.

Early in 1950, the maximum tolerance dose for general stray radiation was reduced to 0.3 per week. In 1946, the American Standards Association set the specific limit of 2r per exposure (to the foot) for shoe fitting machines. Studies made in various cities have revealed dosages at the sole of shoes of from 11 to 140r per minute. A thick sole will reduce the exposure reaching the foot by one half. The stray radiation at the pelvis was noted to be 0.1 to 0.4r per minute.

Danger arises from two sources, 1. too high an intensity and 2. uncontrolled length of exposure. These considerations arise from the use of machines in lighted rooms. Efforts have been made recently on the part of machine manufacturers

and shoe store operators to improve the shielding of the machines and to adjust the operation to bring the exposure at the foot within the limit of 2r per viewing. It is recommended that customers limit x-ray fittings to a maximum of three per day and 12 per year.

Many store operators have adopted and posted safe practices to be observed by store personnel and customers in an effort to minimize the exposures encountered. The fact remains that the shoe fitting machines are fluoroscopes and are operated by store clerks who are not trained in fluoroscopy and who are relatively ignorant of the dangers involved.

The modern concept is to look upon all exposures to radiation as something to be avoided, and only tolerated if the good to be expected outweighs the harm that may be predicted.

There is some question if fluoroscopy is necessary for satisfactory shoe fitting. It has been proposed that ordinary methods of measurement and observation are still effective in fitting shoes. The use of transparent plastic models of all regular sizes of shoes has been found effective and may be an acceptable substitute.

IOWA HOSPITAL CONSTRUCTION PROGRAM

The following data presents a summary of the present status of the Iowa Hospital Construction Program. To date a total of 31 hospital projects are underway or completed. Six hospital projects are open for patients including Red Oak, Bloomfield, Greenfield, Winterset, Manchester and Maquoketa. Only one, Red Oak, has been audited and completely paid to date. All of these costs are contract prices except the Spencer project which was bid October 18. These projects represent a total cost of approximately \$18,516,008.79 and provide a total of 1,209 new hospital beds.

These 31 projects represent the first three years' allotment of Federal funds available to Iowa under the Hospital Survey and Construction Act, Public Law 725 as amended. These funds are allocated each year to the high priority projects on the basis of \$2.00 of local funds available to \$1.00 of Federal funds.

The Division of Hospital Services has compiled a "Recapitulation of Hospital Construction Costs," setting forth detailed information on the costs of hospital construction in Iowa. Copies of this material and other information on the hospital construction program may be secured from this Department upon request.

IOWA HOSPITAL CONSTRUCTION PROGRAM

Project	Beds	Cost	Floor Area	Percent Complete
Bloomfield Davis County Hospital General	34	\$ 499,941.94 Complete 14,700.00/bed	24,020 Sq. ft. total 706 Sq. ft./bed	100% complete
Keosauqua Van Buren Co. Mem. Hospital Mat. and Emerg.	23	\$ 275,985.97 Complete 12,000.00/bed	12,039 Sq. ft. total 523 Sq. ft./bed	99% complete
Greenfield Adair Co. Mem. Hospital Mat. and Emerg.	29	\$ 380,284.68 Complete 13,113.00/bed	22,264 Sq. ft. total 768 Sq. ft./bed	100% complete
Winterset Madison Co. Mem. Hospital General	39	\$ 529,662.44 Complete 13,565.00/bed	20,113 Sq. ft. total 516 Sq. ft./bed	100% complete
Manchester Delaware Co. Mem. Hospital General	39	\$ 372,073.76 Complete 9,540.00/bed	19,407 Sq. ft. total 498 Sq. ft./bed	100% complete
Waukon Veterans' Mem. Hospital General	22	\$ 276,019.27 Complete 12,546.00/bed	13,155 Sq. ft. total 598 Sq. ft./bed	99% complete
Maquoketa Jackson Co. Hospital General	34	\$ 530,352.00 Complete 15,600.00/bed	26,388 Sq. ft. total 776 Sq. ft./bed	100% complete
Fairfield Jefferson Co. Hospital General	25 Add.	\$ 573,119.50 Complete 11,462.00/bed	29,713 Sq. ft. total 594 Sq. ft./bed	100% complete
Mount Ayr Ringgold County Hospital General	30	\$ 343,065.00 Complete 11,435.00/bed	17,518 Sq. ft. total 584 Sq. ft./bed	70% complete
Denison Crawford Co. Mem. Hospital General	50	\$ 546,512.59 Complete 10,930.00/bed	27,800 Sq. ft. total 556 Sq. ft./bed	87% complete
Storm Lake Buena Vista County Hospital General	50	\$ 518,155.96 Complete 10,363.00/bed	27,400 Sq. ft. total 548 Sq. ft./bed	72% complete
Sac City Loring Hospital General	32	\$ 307,000.00 Complete 9,594.00/bed	15,888 Sq. ft. total 497 Sq. ft./bed	100% complete
West Union Palmer Memorial Hospital Mat. and Emerg.	20	\$ 242,199.51 Complete 12,110.00/bed	10,869 Sq. ft. total 543 Sq. ft./bed	99% complete
Red Oak Murphy Memorial Hospital General	17 Add.	\$ 189,774.00 Complete 11,163.00/bed	11,390 Sq. ft. total 670 Sq. ft./bed	100% complete
Corning Rosary Hospital General	38	\$ 565,050.80 Complete 14,870.00/bed	27,170 Sq. ft. total 715 Sq. ft./bed	75% complete
Cherokee Sioux Valley Hospital General	42 Add.	\$ 443,244.00 Complete	23,800 Sq. ft. total 566 Sq. ft./bed	80% complete
Des Moines Iowa Methodist Hospital General	24 Add.	\$1,692,836.67 Complete	60,970 Sq. ft. total	30% complete
Ottumwa Ottumwa General Hospital General	93	\$1,701,006.00 Complete 12,789.00/bed	95,287 Sq. ft. total 716 Sq. ft./bed	25% complete
Guthrie Center Guthrie County Hospital General	30	\$ 388,676.08 Complete 12,955.00/bed	21,200 Sq. ft. total 706 Sq. ft./bed	45% complete
Grundy Center Grundy County Hospital General	32	\$ 467,007.88 Complete 11,390.00/bed	27,033 Sq. ft. total 659 Sq. ft./bed	25% complete
Clarion Community Memorial Hospital General	22	\$ 282,210.00 Complete 12,827.00/bed	16,784 Sq. ft. total 763 Sq. ft./bed	15% complete
Sioux Center Sioux Center Com. Hospital General	26	\$ 287,850.00 Complete 10,661.00/bed	14,460 Sq. ft. total 536 Sq. ft./bed	55% complete
Spencer Spencer Municipal Hospital General	47	\$ 512,852.00 Estimate	26,198 Sq. ft. total 557 Sq. ft./bed	Bids Scheduled 10/18/50
Sheldon Community Memorial Hospital General	24	\$ 339,137.47 Complete 13,935.21/bed	15,975 Sq. ft. total 666 Sq. ft./bed	4% complete
Council Bluffs Edmundson Memorial Hospital General	56 Add.	\$ 454,935.00 Complete	14,300 Sq. ft. total	8% complete
Vinton Virginia Gay Hospital General	36	\$ 377,241.00 Complete 10,478.00/bed	19,744 Sq. ft. total 548 Sq. ft./bed	20% complete
Cedar Rapids St. Luke's Methodist General	150 Add.	\$2,452,800.00 Complete	126,355 Sq. ft. total 842 Sq. ft./bed	20% complete
DeWitt DeWitt Community Hospital General	32	\$ 420,000.00 Complete 14,000.00/bed	17,575 Sq. ft. total 586 Sq. ft./bed	Bids Opened 8/29/50
Osage Mitchell County Mem. Hospital General	33	\$ 450,750.00 Complete 13,659.00/bed	19,588 Sq. ft. total 594 Sq. ft./bed	11% complete
Jefferson Green County Hospital General	28 Add.	\$ 480,636.17 Complete	15,000 Sq. ft. total	10% complete
Davenport St. Luke's Hospital General	52 Add.	\$1,616,229.10 Complete	59,390 Sq. ft. total	7% complete

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A Physician Veteran Comments on Medical Mobilization

With more and more Reserve Medical Officers receiving orders to report for active duty, there is an increasing criticism of the methods and plans for mobilization. Recently, much of this criticism has been directed toward the county and state medical societies. Nearly all of the physicians who have received orders ask the same question, "What is the medical society doing about this?" As we understand the problem, neither the State Medical Society nor any of its components has the power to suggest, plan, or alter any orders to a reserve officer. These orders come down through channels. Only when the officer appeals and can prove that he is essential to the community or that there would be extreme hardship can there be any deferment.

There is to be another registration of all physicians which is to be completed before January 16, 1951. It is from the results of this registration that the local societies and the State Medical Society can aid in designating those physicians who are eligible and who can enter the military service. Then, and only then, will it be possible to determine those physicians who are essential to the welfare and the care of the civilian population.

In all of this, however, there is one aspect which must be kept in mind at all times. The medical profession is at the present time under great pressure. Its methods, philosophy, ethics and capabilities are being probed to the very depth. We are, in fact, fighting for our very existence. Already, there has been criticism of

the medical care provided to the military service. No one who has had previous military service is anxious again to disrupt his professional gains. It would require great effort to rebuild twice in five or six years. But let us not forget that what we do now, and what our attitude is now, may have great and far reaching effects in the next few years. If we can rise to the occasion without too much internal strife, if we can supply adequate medical care to the military services through our own plans and efforts, then we will allay criticism and achieve a victory over those who would rob us of our democratic way of life.

Highway Injuries

With mounting automobile accidents on the highways of the state, it is an opportune time to make another plea for proper emergency care of the victims, especially those suffering from spinal injuries. It is not uncommon to find an injured person thrown clear of the automobile and lying on the highway with a fracture of the spine. Motorists frequently think of the car traveling at 50 miles per hour as representing the velocity, while overlooking at the same time that the torso is undergoing the same velocity. In the sitting position the solid weight of the chest, shoulder girdle and head is thrown forward at the time of impact. This affords an explanation of the jackknifing which produces the frequent compression fractures found at the dorsolumbar junction. It also explains the dislocation of the neck, where the weight of the head continues its momentum forward on the torso at the time of impact.

The average passer-by attempts all in his power to play the role of the Good Samaritan, disregarding the proven rule of "Leave them where they lie!" Instead of covering the individual with a blanket and seeking medical aid, the all too frequent practice is to encourage the victim to stand up or to carry the injured one to the side of the road or to another car for transportation to the hospital. It is this procedure which so often is fraught with danger of the most serious import. Should the spine be fractured, improper lifting of the victim will flex the spine and cause permanent damage to the spinal cord when a sliver of the broken bone is driven into the cord. This results all too often in permanent paralysis of the arms and legs. If the injured one is to be moved at all, prior to the arrival of the doctor or ambulance, he should be rolled over as a log, face down on a blanket, board or door and carried in this position.

Physicians can do much to alleviate permanent injuries following spinal fractures by instructing patients in the proper methods of first aid procedures. Ambulance drivers frequently need sug-

gestions in the proper methods of transporting a patient with a spinal fracture, not only at the scene of injury, but in transferring the patient to the x-ray table as well. A few helpful suggestions by physicians will save many individuals a life of invalidism subsequent to an improperly handled fracture of the spine.

Cologel

For the past four years, Eli Lilly and Company has been interested in the therapeutic properties of one of their synthetic products, methyl cellulose. The material is used in the preparation of capsules which subsequently are filled with different drugs as desired. It was noted that these empty capsules became quite brittle in dry climates. Any druggist who has made the mistake of storing these capsules on a hot radiator finds that the shell will crack in his fingers when he pulls the capsule apart preparatory to inserting the drug. In humid climates it was noted that the capsules tended to stick together.

Experimental work in the laboratory with methyl cellulose, first in dogs and later with humans, disclosed a definite tendency to a laxative effect. Further investigations have proven that this drug has a definite place in the management of constipation. A liquid preparation is now available, under the name "Cologel" which has been made palatable by the addition of lemon flavoring. This product aids in the relief of constipation by furnishing increased bulk which in turn promotes the return of normal bowel peristalsis. Drastic purgation is not to be expected. Best results are obtained after one or two days' use.

Methyl cellulose is available from drug manufacturers in tablet form and has proven helpful in the treatment of constipation. Frequently the patient dislikes the taste of this tablet, which has been compared to blotting paper. By mixing "Cologel" in a glass of water, the preparation is made more palatable.

"Cologel" now takes its place with other laxative agents which stress gentle stimulation of the bowel through mechanical effects of bulk alone, thus avoiding the deleterious habituation commonly found with laxatives which depend entirely upon the effects of a drug or drugs on the bowel.

Do You Read Your AMA Journal?

We were interested recently in a survey made of various publications, among them the *Journal* of the American Medical Association. The thing we remember about the survey is that although the *AMA Journal* lacked many of the "gadgets,"

shall we say, that go to make up reader interest, it still had a high percentage of readers. In other words, it was recognized as the leader in its technical field. Through the sheer worth of its scientific articles, it attracted its readers without having to rely upon the tricks of the trade.

We would have to agree with that conclusion. We have just gone over the issues of the last month and feel impelled to cite some of the many excellent articles appearing in it.

Possibly a section that is of great interest to physicians at the moment is the one on government services. This has carried much information about the calling of physicians into service. Each new ruling from the armed forces is given, and readers can keep themselves up to date on the procurement of medical officers by careful perusal of this section.

A new section, that of a president's page, was inaugurated this fall. Dr. Henderson has had some excellent comments on current matters of interest to the medical profession.

The Washington news section is complete enough to keep physicians well informed on national legislation.

Among recent editorials, several have been most pertinent and helpful. These included one on the exposure of quacks, one on general practice and hospitals, one on a false report of physician shortages in different areas of the country (this was picked up extensively in Iowa) and one on the decision of the American College of Surgeons to continue its hospital standardization program.

Matters discussed in these different editorials affect all of us in our everyday life. Staff membership for general practitioners is not as large a problem in Iowa as in many other states, but even so this editorial set forth some excellent principles. Many different Iowa newspapers picked up the false report on physician shortages and applied it to their own area. If you wish to correct the impression given by this publicity, you can refer to that editorial in the issue of November 4.

Next year every member of the American Medical Association will receive the *Journal* without charge as a part of his membership. We are sure that those who have not been receiving it will find themselves looking forward to its appearance each week. We think those who now receive it must be finding it better and better. Dr. Austin Smith is to be congratulated, not only on upholding the high standard set by the *Journal* under Dr. Fishbein's editorship, but in adding to its reader appeal by the addition of so many timely and worthwhile articles.

SPEAKERS BUREAU

HAROLD MARGULIES, M.D., *Chairman*

JOHN I. MARKER, M.D., Davenport

CHARLOTTE FISK, M.D., Des Moines

CAMPBELL F. WATTS, M.D., Cedar Rapids

ARTHUR D. WOODS, M.D., State Center

RUSSELL M. WOLFE, M.D., Marshalltown

GERALD F. KEOHEN, M.D., Dubuque

SPEAKERS BUREAU

WEEKLY RADIO BROADCASTS

For the past several years the Speakers Bureau of the Iowa State Medical Society has presented weekly broadcasts on health over Radio, Stations WOI and WSUI in Ames and Iowa City respectively. These broadcasts have been prepared and delivered by the doctors in the state. They have proven to be of great value to the listening audience in Iowa.

It is a difficult task for the average physician to prepare a talk which is of interest to a lay audience yet scientifically sound. It is hard for the busy man of science to double as a script-writer. We are indebted to the doctors of Iowa for their cooperation in making these programs successful.

The American Medical Association has prepared several series of talks of the type that we use. These programs, arranged in series of 13, are prepared by the Bureau of Health Education and are made by radio professionals from authentic medical sources. They include dramatizations, musical interludes and interviews with outstanding experts. Since these series of talks are available to state medical societies, we are looking forward to using a set of these transcriptions for our radio talks in January.

The first series to be used over WOI is entitled "The Best Is Yet To Be." This series deals with problems of aging and is based on Robert Browning's "Grow old along with me, the best is yet to be, the last of life for which the first was made." The American Medical Association considers this the best radio production they have ever made. Each dramatic script is by a top-flight New York radio writer. The cast includes radio actors usually available only at top prices. The series was directed by Martin Wagner formerly of National Broadcasting Company; exceptional musical effects with organ, piano, and chimes are by Charles Paul; production by Marshall Hester Productions, New York and general supervision by the Bureau of Health Education of the American Medical Association. The first broadcast of the series to be used in Ames will be on January 25 at 11:45 a.m.

On January 23, the Iowa City station will broadcast the first transcription of a series entitled "Tea for Three." In this series, Dr. W. W. Bauer, who is Director of the Bureau of Health Education, is questioned on health problems that the average person might ask if he had the opportunity to "corner" a physician.

The radio stations have been asked to run a survey

to determine audience reaction in regard to the new broadcasts.

We are looking forward to the broadcasting of these transcriptions and are hopeful for their success.

Heart and Chest Institutes

The last in the series of heart and chest institutes to be given this fall was held November 21 at the Mayfair Hotel in Sioux City. Dr. Aaron Q. Johnson of Sioux City was the local chairman. This institute was made possible through the cooperation of the Iowa Tuberculosis and Health Association, the Tuberculosis Division and the Heart Division of the State Department of Health, the Iowa Heart Association and the Speakers Bureau of the Iowa State Medical Society. The program was as follows:

- 4:00 p.m. Sympathectomy and Hypertension
E. Grey Dimond, M.D., Department of Internal Medicine, Director of Cardio-Vascular Laboratory, University of Kansas Medical Center, Kansas City, Kan.
- 5:00 p.m. Bronchiectasis
John L. Ehrenhaft, M.D., Assistant Professor of Surgery, Chairman, Division of Thoracic Surgery, State University of Iowa College of Medicine, Iowa City.
- 6:30 p.m. Complimentary Dinner
- 7:30 p.m. Coronary Artery Disease to Include Myocardial Infarction
Jesse Edwards, M.D., Assistant Professor of Pathology, Mayo Clinic, Rochester, Minn.
- 8:30 p.m. The Present Status of Drug Therapy in Tuberculosis
John Berry, M.D., Associate Professor of Internal Medicine, University of Colorado College of Medicine, Denver, Colo.

SPEAKERS BUREAU RADIO SCHEDULE

WSUI—Tuesdays at 11:45 a.m.

WOI—Thursdays at 11:15 a.m.

- Dec. 5-7 Common Eye Infections
Paul Lambrecht, M.D., Des Moines
- Dec. 12-14 Athletes Foot
Edgar O. Hicks, M.D., Iowa City
- Dec. 19-21 Dizziness
William H. Harper, Jr., M.D., Keokuk
- Dec. 28-30 Nephritis
John J. Gleeson, M.D., Vail

President's Page

The Iowa State Medical Society is coming to the close of its centennial year, a year that has been filled with noteworthy events. It is true that not all of them have been to our liking. None of us would have wished for the outbreak of hostilities in Korea. We deplore the need for sending our young men into combat again but all of us, I am sure, recognize our responsibility for providing the best medical care not only to the civilian population but to the armed forces.

The centennial meeting at Burlington was a festive event, highlighted by an outstanding program prepared by Dr. Nathaniel G. Alcock and his program committee and carried to the peak of enjoyment by the hospitality of the Des Moines County doctors.

Distribution of the centennial volume climaxed several years of work by the historical committee. The book is a fitting memorial to the centenary of the Society, and we are indebted to those physicians who labored so long and faithfully to make it possible.

The efficiency of the Society's organization was increased in June by the addition of Dr. Ransom D. Bernard as general manager. Dr. Bernard's wide knowledge of society activities has enabled him to extend greatly the sphere of influence of the medical profession.

The work of the national education campaign was aided and abetted in Iowa by the work of many physicians and their wives. The ruling in Oregon, where officers of the medical society and its insurance plan has been accused by the government of restraint of trade, was most heartening. The judge ruled that all evidence pointed to an effort on the part of the doctors of that state to extend medical service to the people of Oregon and deprecated the attempt made to discredit them.

Just as heartening to us in Iowa was the election on November 7. Due to the efforts of many individuals who accepted the responsibilities of good citizenship, the men who have supported our viewpoint in Washington were re-elected. We feel that the work done in the last 18 months to educate the people of Iowa to the dangers of socialization of many phases of our lives has born fruit.

All in all, it has been a good year, a fitting climax, I believe, to the first 100 years of our medical society.

T. F. Thornton, M. D.

President, Iowa State Medical Society

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- EVALUATION IN PHYSICAL EDUCATION: BETTER TEACHING THROUGH TESTING**, *M. Gladys Scott*, Professor of Physical Education, State University of Iowa; and *Esther French*, Professor and Head, Department of Health and Physical Education for Women, Illinois State Normal University. The C. V. Mosby Co., St. Louis, 1950. Price \$4.00.
- INTRODUCTION TO NEUROPATHOLOGY**, by *Samuel Pendleton Hicks*, M.D., Departments of Pathology of the Harvard Medical School and the New England Deaconess Hospital, Formerly consultant in Neuropathology, National Naval Medical Center; and *Shields Warren*, M.D., Departments of Pathology of the Harvard Medical School and the New England Deaconess Hospital; Director of the Division of Biology and Medicine, United States Atomic Energy Commission. The McGraw-Hill Book Co., New York, 1950. Price \$10.00.
- PEDIATRIC X-RAY DIAGNOSIS**, by *John Caffey*, M.D., Professor of Clinical Pediatrics, College of Physicians and Surgeons, Columbia University; Attending Pediatrician and Roentgenologist, Babies Hospital and Vanderbilt Clinic, New York City; Consulting Pediatrician, Grasslands Hospital, Westchester County, New York; Consulting Roentgenologist, Orange Memorial Hospital, Orange, New Jersey; Consultant in Pediatric Roentgenology, the New York Hospital, New York City. The Year Book Publishers, Inc., Chicago, 1950. Price \$22.50.
- PRINCIPLES AND PRACTICE OF SURGERY**, by *Jacob K. Berman*, M.D., F.A.C.S., Associate Professor of Surgery, Indiana University School of Medicine; Associate Professor of Oral Surgery, Indiana University School of Dentistry; Chief Consultant in Surgery, Billing's Veterans Administration Hospital, Fort Benjamin Harrison, Indiana; Director of Surgical Education and Surgical Research, Indianapolis General Hospital. The C. V. Mosby Co., St. Louis, 1950. Price \$15.00.
- PRINCIPLES OF GENERAL PSYCHOPATHOLOGY**, by *Siegfried Fischer*, M.D., Clinical Instructor in Psychiatry, University of California; Formerly Professor of Psychiatry and Neurology, University of Breslau. The Philosophical Library, New York, 1950. Price \$4.50.
- PROGRESS VOLUME to accompany Hyman's INTEGRATED PRACTICE OF MEDICINE**, by *Harold T. Hyman*, M.D. The W. B. Saunders Co., Philadelphia, 1950. Price \$10.00.
- RESEARCHES IN BINOCULAR VISION**, by *Kenneth N. Ogle*, Ph.D., Section on Biophysics and Biophysical Research; Research Consultant in the Section on Ophthalmology, Mayo Foundation and Mayo Clinic, Rochester, Minn. The W. B. Saunders Co., Philadelphia, 1950. Price \$7.50.
- A TEXT-BOOK OF X-RAY DIAGNOSIS BY BRITISH AUTHORS**, edited by *S. Cochrane Shanks*, M.D., F.R.C.P., F.F.R., Director, X-Ray Diagnostic Department, University College Hospital, London; and *Peter Kerley*, M.D., F.R.C.P., F.F.R., D.M.R.E., Director, X-Ray Department, Westminster Hospital; Radiologist, Royal Chest Hospital, London. The W. B. Saunders Co., Philadelphia, 1950. Price \$18.00.
- THE 1950 YEAR BOOK OF MEDICINE (MAY, 1949-MAY, 1950)**, edited by *Paul B. Beeson*, M.D., *J. Burns Amberson*, M.D., *William B. Castle*, M.D., *Tinsely R. Harrison*, M.D., and *George B. Eusterman*, M.D. The Year Book Publishers, Chicago, 1950. Price \$5.00.
- THE 1950 YEAR BOOK OF PEDIATRICS (JULY, 1949-JULY, 1950)**, edited by *Henry G. Poncher*, M.D., Professor and Head, Department of Pediatrics, College of Medicine, University of Illinois; with the collaboration of *Julius B. Richmond*, M.D., Associate Professor, Department of Pediatrics, College of Medicine, University of Illinois. *Isaac A. Abl*, Editor Emeritus. The Year Book Publishers, Inc., Chicago, 1950. Price \$5.00.

BOOK REVIEWS

The 1949 Year Book of General Surgery (August 1948-July 1949), edited by *Evarts A. Graham*, M.D. (The Year Book Publishers, Inc., Chicago, \$4.75). Like previous editions, this compact book covers the periodic surgical literature. It includes reviews of many experimental problems but chiefly covers the clinical investigation work. Many illustrations are reproduced to supplant the text. The author's comments are not as numerous as in some previous editions but are still valuable and increase the value of the book. The chapters in the vascular system are most complete. Practitioners interested in the best of the recent surgical literature will again find the book worthwhile reading.—*J. W. Dulin, M.D.*

Harvey Cushing, Surgeon, Author, Artist, by *Elizabeth H. Thomson* (Henry Schuman, Inc., New York, \$4.00). Written by a research assistant at the Historical Library of the Yale University School of Medicine, this biography presents a well-written, readable picture of the professional and private life of one of America's great surgeons. It should be read by every young physician so that he might experience the tradition of American medicine. The older physician will be warmed by a review of the not too distant past. The story of his success in this country and also in Europe, together with the close associations with other outstanding men, such as Osler and Fulton, makes Dr. Cushing a living figure

in the halls and operating rooms of hospitals throughout the country today.—*H. E. Wichern, M.D.*

Medical Etymology: The History and Derivation of Medical Terms for Students of Medicine, Dentistry and Nursing, by *O. H. Perry Pepper*, M.D. (W. B. Saunders Co., Philadelphia, \$5.50). This little book represents a great deal of hard work and research, and I believe would make an attractive addition to any library medical or non-medical. Besides a complete list of medical terms and their origin from many languages, predominating of course Latin and Greek, it contains an interesting chapter on the origin of medical terminology. There is no attempt made at giving the actual meaning of the words except as you may derive it from their meaning in the original language. This book will be a source of pleasure and satisfaction to any one interested in languages and the origin and derivation of words.—*W. A. Kirch, M.D.*

Progress in Clinical Endocrinology, edited by *Samuel Soskin*, M.D. (Grune and Stratton, Inc., New York, \$10.00). As the title indicates, this book is a progress report of recent advances in endocrinology. Most of the glands of internal secretion are discussed in chapters broken up into groups of subchapters written by well qualified authorities to present their viewpoints and the results of their work. As a text-

book, it may suffer a little from inadequate organization, but one can get a good grasp of what is new and important in endocrinology by reading it. The section on diabetes mellitus is especially illuminating, as would be expected in any writing by Soskin himself.—A. G. Lueck, M.D.

Cytologic Diagnosis of Cancer, by staff members of the Vincent Memorial Laboratory at the Massachusetts General Hospital. (W. B. Saunders Co., Philadelphia, \$6.00). Eight members of the laboratory staff of the Vincent Memorial Hospital, a gynecologic service affiliated with the Massachusetts General Hospital and with the Department of Gynecology, Harvard Medical School, have compiled an outstanding 229-page volume, profusely and beautifully illustrated, on the cytologic diagnosis of cancer. These workers, over a period of six years, have studied 9,100 cases, a large preponderance gynecologic. Emphasis is placed on characteristics of normal and abnormal epithelia of the female genital tract. However, quite adequate descriptions of other materials (sputum, bronchia aspirations, urine, gastric fluid and cavity fluids) are carefully presented and well illustrated.

Primarily, the book is intended as a guide for those interested in the actual interpretation of smears. The volume will prove to be a useful, the best available, tool for such individuals. It will also be of considerable value to those interested clinicians who may desire to have an understanding of the difficulties and limitations of this approach to cancer diagnosis.—R. F. Birge, M.D.

The Pathogenesis and Pathology of Vital Diseases, edited by John G. Kidd (Columbia University Press, New York, \$5.00) contains a series of papers which were presented as a symposium held by the Section of Microbiology of the New York Academy of Medicine. Fourteen papers, by men who are leaders in their field, are included. While none of the subjects is discussed completely, particular problems presented by each author are critically evaluated. Many of the papers contain results of the most recent experimental work conducted in their fields. The reviewer found the paper on "Pathogenesis of Viral Exanthems" to be of special interest, representing an experimental approach to solution of the problem of what occurs in the organism during the incubation period of a virus disease. It is felt that the material offers an interesting resume of the newer approaches to the solution of the basic nature of viruses.—W. Rindskopf, M.D.

Your Hair, Its Health, Beauty and Growth, by Herman Goodman, M.D. (Emerson Books, Inc., New York, \$2.95). This book on hair is written for popular consumption. It contains a quantity of information which would interest a lay person, but I do not believe that a physician would find it of interest. Some portions do not appear to be too scientific; for

instance, in discussing baldness he states that the "biologic basal metabolism test . . . will indicate if your internal glands are functioning properly."

The book contains much detailed advice, including a detailed diet for keeping the hair healthy. In my opinion, this and much of the book lacks scientific, factual backing.—R. J. Steves, M.D.

Nursing in Prevention and Control of Tuberculosis, by H. W. Hetherington, M.D., and Fannie W. Eshleman, R.N. (G. P. Putnam's Sons, New York, \$4.50). Again a comprehensive volume concerning the role of the nurse in the field of tuberculosis has appeared. Revision of this book, which first appeared in 1941, has been made necessary by the changes that have developed in the subject over the past decade. A more inclusive discussion of Bacillus Calmette-Guérin vaccination is presented and a chapter on the use of chemotherapeutic agents is included. While the matter of home care is discussed, the movement toward a hospital-directed home care program, has not been dealt with by these authors.

Altogether, the volume is, to quote from Dr. Esmond R. Long's foreword, "Timely. It is a painstaking revision, bringing the text material up to date, and providing a well-assembled set of facts for the education and guidance of nurses in this important field."—L. J. Galinsky, M.D.

Thoracic Surgery, by Richard H. Sweet, M.D. (W. B. Saunders Co., Philadelphia, \$10.00). This book has been written by one of the outstanding surgeons in this country who has become very well known for his work in thoracic surgery. He is a doer as well as a writer and knows whereof he speaks. The purpose of the book is to set forth tried and proven surgical technics as a guide to good thoracic surgery by competent surgeons. The emphasis is thus placed on surgical technic and anatomy. However, there is also considerable discussion of pre and post-operative care.

Every general surgeon should find valuable material within this text even though he never planned to do thoracic surgery. For the residents in general surgery and the thoracic surgery house-men, this book is a must. Likewise, the book should be in the hands of every doctor being called into military service since these men will have no assurance that they will not be called upon to treat chest injuries.

The illustrations by Dr. Jorge R. Arroyo are unique in composition and superbly executed. They add a great deal to the value of the text. Since this book is written primarily for surgical technic, there is a dearth of material regarding the clinical aspects, roentgenological findings and pathology of the diseases of the chest. It is hoped that a book covering these aspects of thoracic surgery may be forthcoming from the pen of Dr. Sweet or from that of another writer as capable as Dr. Sweet has again shown himself to be.—R. A. Dorner, M.D.

WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

President—MRS. CLAIRE H. MITCHELL, Indianola

President-Elect—MRS. HOWARD W. SMITH, Woodward

Secretary—MRS. RALPH J. SELMAN, Ottumwa

Treasurer—MRS. DWIGHT C. WIRTZ, 449-56th St., Des Moines

IOWA MID CENTURY CONFERENCE ON CHILDREN AND YOUTH

The Iowa Mid Century Conference was held October 21 at the University Christian Church in Des Moines. The conference was composed of professional and lay persons representing various organizations who are earnestly endeavoring to do their part to serve children and youth in the state. The theme was "For every child a fair chance to develop a healthy personality."

Eight recommendations were made at the meeting, and all in attendance were asked to make use of them as a program or project of study. These recommendations from the various states will be the beginning points for discussion at the White House Conference on Children and Youth to be held in Washington, D. C., during December.

The following recommendations were made:

1. Continued study of the School Organization Plan with the objective that every child in Iowa should have an equal opportunity of education.
2. Approval of the proposed bill for permissive legislation to establish county and multi-county boards of health.
3. The Protective Care Committee urged the appropriation of funds be large enough to pay 100 per cent of the need for aid to Dependent Children program.
4. Revision of Child Labor Laws.
5. Provide for a State Recreation Board.
6. Continue study of the Iowa Juvenile Code.
7. The Committee on the Family to continue making a study of various projects.
8. Committee on Handicapped Children stressed the need for increased information for the public to overcome stigma of the handicapped. There should be more referrals to special schools and more help to patients.

Mrs. Roscoe Eliason, president of the Iowa Farm Bureau Women who had been attending the World Conference of Country Women in Europe, attended the meeting. She had just arrived in this country and came to the Des Moines meeting before going to her home.

There were three doctor's wives whom I knew in attendance at the conference. They were Mrs. William Seidler, Jamaica, Mrs. Roger Minkel of Fort Dodge and Mrs. Harold L. Brereton of Emmetsburg. There may have been others I did not know.

Mr. A. Whittier Day, director and chairman of

the Minnesota Youth Conservation Commission of St. Paul, Minn., was the luncheon speaker. He briefly reviewed the previous White House Conferences on Children and Youth. The Mid-Century Conference places emphasis on mental health. There is a terrific lag in the knowledge as to the use of it.

There is a tendency for the professions to restrict their knowledge to their own group. Professions have not use prevention.

There is no single easy solution to help young people. There is no easy way to solve problems. All should participate and contribute to the welfare of boys and girls.

What to do:

1. Conferences on the local community level.
2. Expansion of leadership at the local level.
3. Local groups are most important (housewife, butcher, farmer). These are the doers. The State organization only outlines the programs for guidance. Community Councils should be broadly representative. Problems can best be met at the community level.

Mrs. Howard W. Smith, President-Elect

ACTIVITIES OF COUNTY AUXILIARIES

The Boone County Medical Auxiliary held a tea for high school senior girls of the county who might be interested in nurses' training. Thirty-three girls from five towns attended. They were entertained by talks of girls already in nurses' training and were instructed as to available scholarships and loan funds.

Mrs. Wallace H. Longworth

Members of the Clay County Medical Society gave a silver tea to promote nurse recruitment. Honored guests were Monica Dailey and Jean Underwood who entered nurses' training this fall. Nurses, dentists' and druggists' wives and representatives of women's organizations were invited to attend. Proceeds were delegated to the Nurses' Loan Fund of the State Auxiliary. "Cooperation of All Civic Organizations in Furthering the Study of Legislation" was presented by the guest speaker, Mrs. W. W. Sacknett.

Mrs. Lyle F. Frink

The Polk County Medical Auxiliary held its regular luncheon meeting at Younkers Tea Room October 27. Mrs. Keith M. Chapler spoke on "Emily Dickinson: A Clinical Profile."

SOCIETY PROCEEDINGS

MEETINGS

Hardin

Dr. Harold Margulies of Des Moines spoke on "ACTH-Cortisone" at the November 14 meeting of the Hardin County Medical Society in Iowa Falls.

Johnson

The Johnson County Medical Society met at the State Sanatorium at Oakdale November 1. Dr. Philip G. Keil of the Des Moines Veterans Hospital Department of Medicine spoke on "The Value of Pulmonary Arteriography in the Diagnosis of Pulmonary Parenchymal Lesions."

Polk

The Polk County Medical Society will hold a dinner meeting at the Veterans Administration Hospital in Des Moines on December 13 at 6:30. The inter-departmental staff of the hospital will present a symposium on "Common Duct Stone."

Sac

The Sac County Medical Society and the medical staff of the Loring Hospital held their regular dinner meeting October 19 at the Hotel Park in Sac City.

Scott

The following officers were elected at the Scott County Medical Society annual meeting November 17 at the Pine Knoll Sanatorium in Davenport: President, Dr. Paul A. White, Davenport; President-elect, Dr. Preston E. Gibson, Davenport; Vice President, Dr. Walter J. Balzer, Davenport; Secretary, Dr. Harry B. Weinberg, Davenport; Treasurer, Dr. F. Dale Wilson, Davenport and Historian, William S. Binord, Davenport.

Webster

Dr. Emerson Ward of the department of rheumatology at the Mayo Clinic in Rochester, Minn., spoke on "ACTH and Cortisone" at the meeting of the Webster County Medical Society November 14, at Hotel Warden in Fort Dodge.

Wright

Dr. Thomas L. Parkin of the Mayo Clinic, Rochester, Minn., spoke on "The Use of Anticoagulants" at the Wright County Medical Society meeting October 17, at the Clarion Grill in Clarion.

PERSONALS

Dr. Richard Bartholmew of Lake City has been recalled to active duty with the United States Navy and reported November 1 to the naval base in Oakland, Calif.

Dr. William B. Bean, professor of internal medicine at the SUI College of Medicine, was recently elected President of the Central Society for Clinical Research at the Societies' annual convention in Chicago.

Dr. Otto S. Blum, formerly of Waverly, has accepted a position on the staff of the Monroe Clinic in Monroe, Wis.

Dr. Raymond W. Carson of Winterset, who recently entered military service, was entertained at a dinner October 9 by the Madison County Memorial Hospital staff.

Dr. Jay R. Dewey of Schaller was recently elected president of the Iowa Division of the American Cancer Society when the group met in state convention in Des Moines.

Dr. John W. Ferguson of Newton recently represented Iowa at a research clinic on the treatment of atomic burns at Washington, D. C.

Dr. Robert C. Hardin, medical director of the American Red Cross blood transfusion program for Connecticut, recently re-joined the SUI College of Medicine faculty as an associate professor of internal medicine.

Dr. H. Dabney Kerr of Iowa City was recently elected president of the American Roentgen Ray Society when the group met in St. Louis, Mo.

Dr. Donald F. Mirick has begun the practice of medicine in Clinton. A 1943 graduate of the SUI College of Medicine, Dr. Mirick took his internship in the Moline Public Hospital, Moline, Ill.

Dr. Lambertus Mulder, formerly of Hospers, has recently become associated with Dr. Carl D. Oelrich in Sioux Center. A 1946 graduate of the University of Michigan Medical School, he took his residency at the Butterworth Hospital in Grand Rapids, Mich.

Dr. Clark W. Stevens, formerly of Alexandria, Va., has become associated with the Medical Associates in Dubuque. A 1943 graduate of Vermont Medical College, Woodstock, he took his residency at the Alexandria Hospital.

Dr. Donald E. Tyler of Shenandoah spoke on "Socialized Medicine" October 31 at a Rotary meeting in Shenandoah.

DEATH NOTICES

Dr. Hervey Fulton Masson, 66, of Washington, died October 21 at the Soldiers home in Marshalltown. He had been ill for the past year. Born in Allerton, Dr. Masson was graduated from the State University of Iowa College of Homeopathic Medicine in Iowa City in 1908. He had practiced medicine in Washington for 42 years. Dr. Masson was a member of the Washington County and Iowa State Medical Societies.

Dr. William S. Reiley, 79, died November 8 in Red Oak after several weeks' illness. He was graduated from the Omaha Medical College in 1895. Dr. Reiley was a life member of the Montgomery County and Iowa State Medical Societies and a Fifty Year Club member of the Iowa State Society.

Dr. Stephen Riess, 65, of Cedar Rapids, died October 30 at his home. Born in Prussia, Dr. Riess was graduated from a German medical school and practiced medicine in Berlin before coming to Cedar Rapids seven years ago. He was a member of the Linn County and Iowa State Medical Societies.

Dr. Jack E. Swegart, 29, of Maquoketa, died of poliomyelitis November 12 in Iowa City. He was a 1945 graduate of the George Washington University School of Medicine, Washington, D. C. Dr. Swegart was Secretary of the Jackson County Society and a member of Iowa State Medical Society.

Dr. Soren S. Westly, 69, a physician at Manly for 41 years, died at his home October 21 following a heart attack. Born in Norway, Dr. Westly was graduated from the State University of Iowa College of Medicine in 1909. He was a member of the Worth County and Iowa State Medical Societies.

Capt. Donald S. Wilkins, 28, formerly of Iowa City, died October 5 from an acute attack of poliomyelitis while serving in the Korean War area. A 1947 graduate of the State University College of Medicine, Capt. Wilkins was an anesthesiologist with a mobile hospital unit located near Pusan, Korea. Prior to leaving for Korea, he served on the medical staff of the College of Medicine. Capt. Wilkins was a member of the Johnson County and Iowa State Medical Societies.

PROFESSIONAL HOSPITAL RELATIONS
APPOINTEES

The following men have been appointed by Dr. Thomas F. Thornton, President of the Iowa State Medical Society, to serve as the Committee on Professional Hospital Relations (Hess Committee): Chairman, Willard S. Phetepiece, Davenport; Joseph G. Fellows, Ames; John C. Shrader, Fort Dodge; Raymond E. Cooper, Keokuk and Walter Hartung, Davenport.

SPECIAL NOTICE TO
VA FEE BASIS PHYSICIANS

The Veterans Administration desires to notify all Fee Basis physicians that Cortisone and ACTH cannot be prescribed for Veterans Administration beneficiaries at government expense on an *outpatient* basis until such time as a revised policy has been developed for the use of these agents.

The Iowa Pharmaceutical Association has been advised not to accept prescriptions for Cortisone and ACTH after November 15, 1950. Properly documented prescriptions filled prior to that date are to be processed for payment.

Further, investigational drugs, that is, drug items for which new drug applications have not been made effective by the Food and Drug Administration, and, therefore, not available through the regular channels of Interstate Commerce, shall not be used in authorized *outpatient* treatment of Veterans Administration beneficiaries.

CLINICOPATHOLOGIC CONFERENCE

(Continued from page 576)

obvious (Figure 2). Such lesions tend to respond better than the highly differentiated ones. After radiation that is all smoothed out and at the time of fluoroscopy there was no evidence anywhere of a lesion (Figure 3).

It is important to remember, however, that to affect these changes, one has to really treat the patient and has to deliver a sufficiently large dose to affect the tumor. The point that I would like to make is that these patients have to be treated. What we try to do is to restore the normal anatomy by destruction of the neoplasm. We must use "all-out" measures. Ordinarily we use our 200 kv. machine and direct the beam at the lesion through numerous fields over the chest and attempt to deliver anywhere from 3,000 to 6,000 roentgens to the tumor.

CHRISTMAS PRESENT SUGGESTION

Additional copies of the Centennial Volume, *One Hundred Years of Iowa Medicine*, may be purchased through the Iowa State Medical Society office, 505 Bankers Trust Bldg., Des Moines 9, Iowa for \$2.50. The JOURNAL suggests that they would make good Christmas presents for former Iowa doctors living elsewhere in the United States.

AMA DUES

All doctors who have not paid their 1950 AMA dues should do so at once. The American Medical Association will base its apportionment of delegates upon the number of paid members of each state. The Iowa State Medical Society now stands twelfth on the list with 81 per cent paid. This is too low and is surprising in view of the fact that most counties are 100 per cent in membership. Just a few counties are dragging the percentage down. If you have overlooked your payment please take care of it at once.

THE JOURNAL

of the

IOWA STATE MEDICAL SOCIETY

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Editor: EVERETT M. GEORGE, M.D., Des Moines
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